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ABSTRACT

This document contains a series of exercises and materials designed by the Futures Task Force to sensitize fellow citizens to rapid change and to encourage them to begin thinking in terms of what the future may bring in their community. Nine sections comprise the publication and cover: (1) a brief history describing the formation of the Futures Task Force, its workings, and the difficulties it encountered; (2) a bibliography of books and articles on futurism; (3) a description of a tape/slide narrative and set of graphics on planning for an uncertain future; (4) three fictionalized scenarios of the future in 1985 designed as "think pieces" and followed by an exercise wherein the reader creates a fourth; (5) a glossary of alternative definitions and images of educational terms for the future; (6) future issues facing education; (7) a two-part exercise illustrating how values held affect the group process and planning outcomes; (8) facts and trends with relevance for educational planning; and (9) testing educational plans for future feasibility. (Author/DN)

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A FUTURES PRIMER FOR LOCAL EDUCATION AGENCIES

RESEARCH REPORT NUMBER FOURTEEN

OF

PROJECT SIMU SCHOOL: SANTA CLARA COUNTY COMPONENT

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Remember the good old days?

Judging by current movies and fashions, a lot of us would like to. After all, life was simpler then and the pace slower and everything better, wasn't it?

Well, better or worse, our lives are sure different now.

It is no wonder that we would occasionally like to live in the past. But we can't. Sometimes it seems that we can barely live in the present.

Is there any hope for the future? Good question. And there are people searching for good answers. Herman Kahn. Alvin Toffler. Researchers at think-tanks such as SRI. These "future-ologists" look at where we've been and where we are, and attempt to predict where we're going.

Seems we have choices. Alternative futures.

Where might we be in fifteen years?

Major cities grow even larger. Some finally abandoned. Pollution, congestion, violence, economic and politic power--centralized and concentrated. Western industrialism spreads throughout the world, multi-national corporations mushroom. Inflation increases and the dollar is devalued again and again. Giant corporations turn to countries where labor is cheap. The economic squeeze gets progressively tighter. In the election of 1976, a mandate from the people. Commit all resources of the federal government to the creation of jobs. Jobs concerned with the quality of life and the environment. Crash training programs are begun. Job retraining for adults. On-the-job apprenticeship type schooling for the children. Searches for new energy sources and ways to recycle waste. Increased emphasis on human services. A national service corps. Social and psychological scientists invent and refine social engineering techniques. Then use them to cool the forces of violence and change in the country. And by the mid-80's, it is all beginning to work.

But suppose these governmental attempts were to come too late. Then what might our future be? Major depression, foreclosures, research programs are cut back, no jobs. Corporations fail. The ensuing decade is spent attempting to survive and regroup.

Another future--yet a different path. Breakthroughs in the emerging science of consciousness. Extra-sensory abilities become commonplace. A greater degree of self-awareness leads to an altering of values. A lessened emphasis on salaries and possessions. Urban communes become widespread. Individualism takes on a new importance. People pursue simultaneous careers. Self-awareness. You - Us - Together.

Maybe these aren't the only alternatives. Maybe you've got a set of your own. And then again, maybe nobody knows. After all, the experts have been wrong before.

One thing that might make the difference between crystal ball visions and concrete success is planning. Planning to bring the good to pass. And prevent the bad from happening. Planning to live in the future whatever it might become. We do it all the time. Maybe not on a national scale, but we can be effective on a local level.

Look at it this way--our children are our future. The schools help to determine what our children will become. And so, we must be concerned with the future of our schools. Through planning--effectiveness on a local level. How might the future affect our schools?

A job-oriented society might force a split: mornings are spent in the public schools learning the three R's; afternoons at on-the-job training sponsored by industry.

What about the great depression of '76? Schools would be forced to cut their budgets severely. Fewer teachers, fewer public schools, massive teacher unions. But also alternative, cooperative schools, staffed by out-of-work teachers.

Or, increased consciousness might lead to a melding of diverse fields of study. Less time spent successfully on more subjects. The student begins with his new inner-awareness and charts his own educational course.

Alternatives. Possibilities. Now is the time to begin.

Our children already have.

Project Redesign.

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FOREWORD

Project Simu School: Santa Clara County Component has directed its efforts toward developing and testing of methodologies and techniques which can be used by educational planners to learn more about the communities in which educational systems function. Inherent in compiling a "Community Profile" (described in a forthcoming Simu School publication) is the need to speculate about the future: who will reside in the community? What educational needs will emerge with the rapid changes that shape the community?

Project Redesign, a future-planning program initiated by Palo Alto Unified School District, Palo Alto, California, was begun to assess the effectiveness of the district's educational program and to establish new directions to be taken. Citizens task forces have collected information, solicited ideas from residents and formulated proposals for consideration from the Board of Education.

In its efforts, the Futures Task Force prepared a series of exercises and materials designed to sensitize fellow citizens to rapid change and to encourage them to begin thinking in terms of what the future may bring to their community. Project Simu School has provided assistance in this activity and has been privileged to "capture" the materials used in the Task Force's "futuring" sessions.

Special acknowledgement is made to the volunteers of the Task Force, many of whom are professionals in research, education, business, industry and government. Also acknowledged are personnel from Stanford Research Institute who have dedicated many hours and resources to the project. SRI is hereby acknowledged as joint publisher of this document. In addition to the authors, we would like to express our appreciation to Kathy Miller, Chris Cory, Bill Leikem and to the Palo Alto Task Force Chairman, Molly Goetz.

The mandals which add interest to the information plates appearing in the section entitled, "Can We Plan for an Uncertain Future?" were taken from Mandala by Jose and Miriam Arguelles, published at $5.95 (paperback) by Shambala Publications, 2045 Francisco Street, Berkeley, California 94709. The illustrations are used by permission of the publisher.

Further acknowledgement is due Rick Cornish, editor, for preparing the manuscript for publication.

"A Futures Primer for Local Education Agencies" is presented in the hope that it will be of value to educational planners as they seek to find a vision of the future. Further information about Project Redesign can be secured from Mr. Tom McCollough, Director, Palo Alto Unified School District, Palo Alto, California.

Lester W. Hunt, Director
Project Simu School: Santa Clara County Component

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A PALO ALTO CASE STUDY IN EDUCATIONAL FUTURING

Futuring Is Just a Baby

How do you help people think about the future?

It's hard. And we haven't found any easy answers. Some suggest[1] that a limited number of people are capable of serious futuring and that it's foolishness to expect everybody to try. Others say that unless we develop a futuring-consciousness in ourselves and our children, we have probably met our doom--that futuring is a deadly serious matter.

However, most people prefer to dwell on the pressing needs of the moment, and heaven knows we have current problems. Experts testify that you can't predict the future. We knew that all along, although people seem to have a certain sense of fascination in the future, something akin to watching a snake. They like to watch, but don't want to touch.

Still others say they can see the future. Who knows, they may be right.

Futuring does not lack advocates or a rapidly growing body of literature. What is especially lacking is a diffusion technology. Educational futuring is an even younger baby. The Educational Policy Research Center at Syracuse University and Stanford Research Institute, funded by the Office of Education, began their work in 1968. Harold Shane, Professor of Education at Indiana, made his pilgrimage to 32 futuring factories in 1971-72, and his report (OEC-0-72-0354) was a pioneer attempt to bridge the futuring-education gap. In recent days, futuring has become rather popular among school people. The ASCD Convention in March of 1974 focused on the topic and many professional educational magazines are now carrying "futures" articles.

Educators don't know very much about using futuring materials at the local school level. Certainly we know of no legitimate research to describe or measure the effect of futuring activities in local school districts, schools or classrooms. This paper does not describe research findings. Instead, it describes a futuring activity now in progress in the Palo Alto Unified School District and offers a number of products which have emerged from that work to date. Some of the products have been winners (we think) and others losers (we think). We offer them for your examination to do with what you will. We are eager to build futuring experience and diffuse it while we are doing it and not wait for a later unveiling of the tested and true.

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[1] Eldridge, H. Wentworth. "A Mark II Survey and Critique of Future Research Teaching in North America," Technological Forecasting and Social Change, 4, pp. 387-407, 1973.

Project Redesign

Dr. Harold T. Santee, Superintendent of Schools in Palo Alto, proposed to the community and school board in 1971 that the district undertake a future-oriented long-range planning project to explore directions which education in the district might take in a ten and twenty year framework. The idea was accepted. A director was hired in July, 1972. A process to manage the project was completed by January, 1973 and work began.

Two key elements of Project Redesign bear on this report. First, the process called for the formation of a social invention called a School/Community Planning Team--in reality, small planning commissions of citizens, students and professional staff to create sections of a comprehensive long-range plan. Second, the process called for a Task Force on Emerging Societal and Educational Futures to develop futuring materials for the School/Community Planning Teams. The case study described here is a narrative explaining the function and output of the "Futures Task Force" and our attempts at diffusion of the material to the first five pilot School/Community Planning Teams now in session to a variety of lay and professional groups in the district and to a small number of groups outside of Palo Alto.

Forming the Futures Task Force

Palo Alto is a bedroom community south of San Francisco, "across the street" from Stanford University, and in the heart of high technology industry--electronics, space, etc. The Stanford Research Institute, a large, not-for-profit research organization is five minutes to the north. The Center for Educational Policy Research, located at SRI, houses a staff of educational futurists who have been working and publishing educational futures material since 1968.

Fortunately for Project Redesign, at least four of the SRI staff are parents in the school district and, consequently, have more than a passing interest in the problem of helping the entire school/community imagine themselves in 1985, when the children entering the schools will be graduating from high school. One of the parents, Dr. O. W. (Mark) Markley, was willing to contribute significant amounts of his personal time to act as "philosopher coordinator" to a task force of people charged with developing the materials displayed in this paper. Besides Dr. Markley, the committee was constituted as follows:

Category	Occupation
Parent, Coordinator	Homemaker
Parent	Homemaker
Parent	Educational Planner
Parent	Futurist
Parent	Futurist
Parent	Writer/Editor
Parent	Writer/Editor
Graduate Student	Communications Theory
Student	High School

Category	Occupation
Student	High School
Teacher	Alternative High School, English
Teacher	Junior High School, Social Studies
Substitute Teacher	Elementary
Administrator	Junior High School, Vice Principal

Several interesting phenomenon with the membership occurred during the six months that the committee worked together. At least three people "discovered" the group and "joined" it informally--a student from within the district, a parent from a neighboring school district, and a high school teacher from a district south of Palo Alto. One parent, whose views were structured and rather conservative, dropped from the task force feeling that it was "too far out." One of the high school students left town when the school year began, and the other student came to early meetings, got sick, and then did not return after school began. Meetings were held weekly and good records were kept.

The charge to the committee stated:

TASK FORCE ON EMERGING EDUCATIONAL AND SOCIETAL FUTURES

> In the simplest terms, it is the responsibility of this Task Force to present to the school/community and to the School/Community Planning Teams the range of likely possibilities open in the future for society and for the schools.
>
> This will mean studying, weighing, interpreting, discussing, and summarizing the wealth of material available as well as the theories of individual members of the Task Force. Perhaps the group will wish initially to divide into two sections: one to survey the "futures" literature and current research on the directions society may be taking or might be encouraged to take; the other to consider the options--both philosophical and technological--foreseeable for education. Ultimately, the whole group will have to consider the interdependence of society and education and the recurring question of which leads, which follows.
>
> It is not the role of the Task Force to advocate a particular vision, or visions, but rather to suggest, with as little bias as possible, the full spectrum of choices; to indicate to the planning teams the techniques necessary for studying the future; and to convey some sense of the excitement inherent in that study. No serious theory should be censored because it seems impractical or because "Palo Alto would never buy that."
>
> A part of the final report will probably be a summary publication with bibliography. Beyond that, it would be highly desirable for some or all members of the Task Force to indicate willingness to consult with the planning teams and even to continue to keep abreast of futures material.

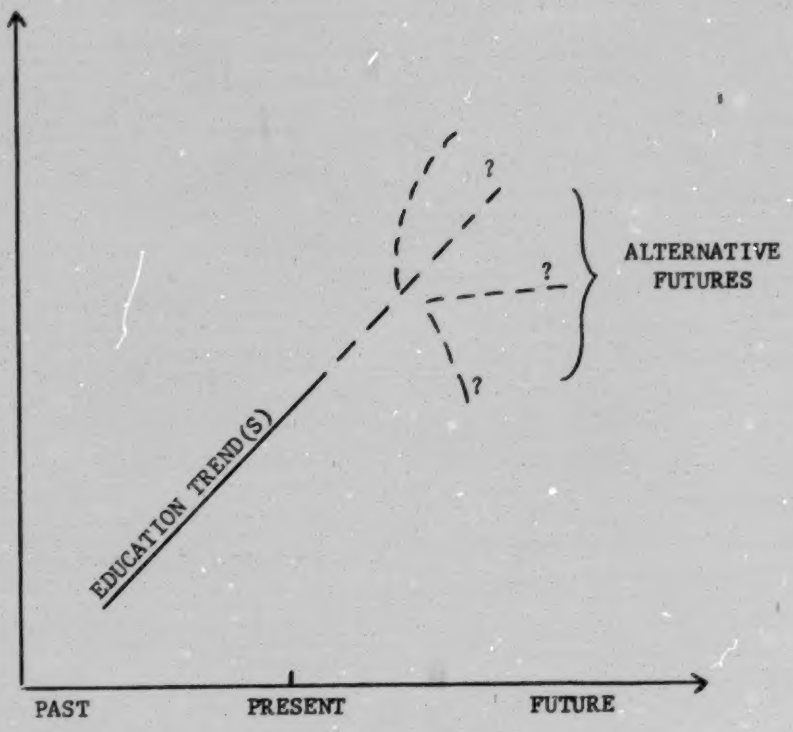
The Workings of the Task Force

Each of the enclosed products is preceded by a brief description of the process by which it was developed, including the pitfalls each encountered. Therefore, we won't convey the development of the materials in this section. Instead, we will review the working of the committee.

Figure 1 provides an illustration of what the Task Force decided was the most helpful way to view the future.

Figure 1

Alternative Future Planning


?
?
?
ALTERNATIVE FUTURES
EDUCATION TREND(S)
PAST
PRESENT
FUTURE

One starts with trends that describe how the present came into being out of the past and that thrust the present into the future. Trends should be emphasized which either: (a) illuminate the societal context in which education functions; or (b) illuminate significant changes that the educational enterprise itself seems to be undergoing.

We cannot predict with any degree of certainty what will happen in the future. But, given that rapid rate of change in society, will cause it to be different from "just" an extrapolation of current trends and given that our present plans will have to be workable in the future which comes to pass, the Task Force inquired into the range of alternative future possibilities that seem most useful to consider and into the types of emerging issues and isolated predictions that might influence what the future will be.

The first tasks that the Task Force took on were to simultaneously: (1) search the futures literature for relevant descriptions of "whole" alternatives futures and for various issues and isolated predictions that would affect the future; and (2) set out to write a number of plausible issues, predictions, and future scenarios of its own.

The futurists collected a not too elaborate set of books and papers. Various members of the Task Force took home assignments and read them. These materials included:

Kahn and Wiener, Year 2000
Kahn, Bruce Briggs, Things To Come
Theobald, Robert, Teg's 1994
Theobald, Robert, Futures Conditional
SRI Report, Changing Images of Man
SRI Report, Contemporary Societal Problems
Bellamy, Edward, Looking Backward
Huxley, Aldous, Brave New World
Gross, Bertram, "Friendly Fascism," from A Model for American Social Policy, Nov.-Dec., 1970.

In an early meeting, the Task Force watched and discussed the slide film and cassette tape by Dr. Harold Shane entitled, "Educational Futures," available from Phi Delta Kappa. Two of the futurists lectured on various alternative futures suggested by available literature.

Within several weeks, four ideas surfaced which tended to shape all of the products found in this report. To teach futures, the Task Force reasoned, material should be experiential as well as intellectual. Secondly, material needs to be narrowed down to a manageable amount. Thirdly, educational plans should be created and then compared to likely alternative futures to see if they fit or make sense. (Put another way: a school system should not be designed to fit a single future selected by a task force.) Finally, fifteen years was chosen as a target future.

By the fourth week, members of the Task Force were writing problem statements, papers on ideal education and scenarios of Palo Alto in 1985. Here are two examples of scenarios written by laymen after less than two months exposure to future materials. Note that one member is pessimistic and the other is optimistic.

Energy Breakthrough

In the last years of the 1970's, Japanese scientists harness fusion power. There are incredible world-wide consequences.

In the U.S., a rash of inventions begin to exploit the virtually inexhaustable energy resources. Air and water pollution are overcome. The air of major cities is cleansed. Lake Erie is purified along with the Mississippi River. The inner-city areas are refurbished. The poverty class is wiped out; because so many goods are produced, prices fall. There is plenty for everybody. Great resources are made available for medical and basic science research. The work week is reduced to two days. Adult education and recreation become major time consumers.

In the schools, such technologies as computer assisted instruction, videotaping, etc., are made widely available. As machines virtually handle all blue and low white collar jobs, schools become more person-intensive; teacher-student ratio becomes 1:3. Home learning vastly expands as homes are fitted out with video-computer stations, with access to vast data banks. Parent involvement in child-rearing markedly increases. Education becomes a cradle-to-grave process. New real world discoveries are made available to learners almost instantaneously.

With increased material riches and an end to the poor class, education becomes less job oriented and more knowledge and self oriented. Education, not work, becomes the focus of life; but education is broadly defined. It is no longer controlled by professionals or unions.

The ultimate result is that education leads to new advances in the arts and sciences.

Palo Alto 1988

Key Elements. Palo Alto will be affluent, the home of the rich and near rich. Therefore, it will be able to command enough scarce resources for personal needs. Its residents will have large amounts of leisure time.

Palo Altans in their affluence may expect increased hostility toward themselves from the less affluent.

Traffic congestion will continue to increase.

Air pollution, likewise, will be more intense with many smog-filled days.

Despite the pollution and congestion, new construction, increasing density, will continue.

Distrust between power groups will continue to develop, especially those groups as they relate to the school system.

Educational Implications. The educational system will have pressure upon it to develop corporate managers. The system should have begun to deal with environmental issues.

Each year, as internal conflicts increase, the system will be less able to cope with the changes needed.

Major Consequences on Education. The public schools will be under continued conflict between those who want its products to be prepared to function effectively in the industrial technical society and those who are certain that such an education is the worst thing that could happen to our children. The conflict between the two will increase in the next 15 years.

The national scene will have major conflict between polar groups. Major ecological problems and a major energy crisis. Distrust will be extreme.

The effect of having several professional futurists in the group w[illegible] profound as expected. Without their help, rapid progress could not have been made among the maze of futures materials. We can also speculate on how directly the futurists influenced the content of the Task Force output. Their impact was certainly significant.

In February of 1970, the Educational Policy Research Center at SRI published a document entitled, "Alternative Futures and Educational Policy" (SRI Report 6747, Contract OEC-1-7-071013-4274). This report outlined a series of forty possible alternative futures. The SRI report concluded, "On the whole, it looks as though, of the same forty feasible future histories, there are very few that manage to avoid some period of serious trouble between now and 2050. The few that do appear to require a dramatic shift of values and perceptions with regard to what we come to term the 'world macroproblems'."

Our Futures Task Force decided to focus on three of these likely future societal alternative histories. They were: Status Quo Extended, Economic Disappointment, and Cultural Transformation. If you will examine the material on the following pages carefully, you will discover this theme:

> We are headed for trouble in the decade or two ahead... probably with our economic system and probably our ecosystem. Serious trouble. But we'll get through it at a severe price, requiring personal sacrifice and perhaps some loss of freedom.

In other words, the futurists are worried and eager to convey that we dare not take the future lightly. That concern was shared by the majority of the Task Force members and our materials on societal futures reflect that worry.

The criteria for choosing such a limited set of alternative futures were: (1) they seem reasonably plausible, given what we know today; (2) they cover a wide range of possibilities (e.g., from economic success to economic depression); and (3) the differences between them make a significant difference in the types of educational policies that would then be feasible. That is, they would constitute a good "test screen" against which to test today's plans for our schools.

In addition to testing plans against various highly plausible alternative futures, however, the Task Force recognized that there was a class of issues likely to impact on education regardless of which alternative future comes to pass. The Task Force then collected such a set of issues and submitted them to various nationally known educators for a critical review (see page 75).

Perhaps the most difficult and time consuming task the Task Force labored over was the construction of the "test screen" itself. Should it pertain only to the future? Should it contain all of the elements that a good evaluation of a plan should include (e.g., what finances would be necessary, what persons would be impacted, whose support would be necessary)? Unfortunately, the Task Force was never able to resolve these questions as an entire body. Finally, several of the group chose the "least common denominator" (pertaining only to the futures) and wrote up a short exercise the planning teams could use if they chose.

Based on their own firsthand experience, the Task Force concluded that it was not enough to simply read what someone else wrote about the future and its implications.

In order to internalize future-oriented material, the user must struggle with the future and experience its implications on his or her own terms and in his/her own way. Therefore, to the extent possible, all of the training aids the Task Force prepared contained one or more experiential exercises, oriented to the goal of the participants shaping their own visions of the most likely and the most desirable futures that should be considered in educational planning.

By the end of the second month, the Task Force had split into work groups and except to review manuscripts, worked in smaller clusters around these specific projects:

1. A ten minute multimedia introduction to futures: Alternative Futures for Planning;

2. A short Futures Bibliography;
3. A tape/slide presentation: Can We Plan for an Uncertain Future?;
4. Three scenarios: The View from 1985;
5. A Glossary of Alternative Definitions and Images of Educational Terms for the Future;
6. An exercise entitled: Future Issues Facing Education;
7. Facts and Trends with Relevance to Educational Planning;
8. Values Clarification and Planning for Educational Futures;
9. A futures screen: Testing Your Educational Plan for Future Feasibility.

Using the Materials: What We Did

While the futuring materials were being developed, a futures training program was being generated for presentation to five pilot School/Community Planning Teams as part of their orientation seminar. Two evenings were set aside for this purpose.

Session One: Introduction to Futuring

Homework Assignment: "The View from 1985," three future scenarios, and homework assignments (page 52).

Content	Explanation
1. Methods of thinking about the future. Using trends for planning purposes. Some conclusions of futurists aids for planning discussion.	The lecture material presented is contained in the tape/slide presentation entitled, "Anticipating the Future" (page 22). Feedback data indicate that some people liked all materials, but none universally. Time: about 60 minutes.
BREAK	
2. Discussion of homework assignment, "The View from 1985," three scenarios, page 52.	Discussion animated. Some felt material too heavy. Others were obviously stimulated and participated actively. We don't have a record of those who did not do assignment. Time: 30 minutes.

3. The intuitive approach to dealing with the future: hunches, daydreams and their uses; exercise similar to one on page 11.	Dr. Markley conducted this session informally, generally following the format suggested in the "Futures Invention Exercise." This exercise is always surprising in that the participants normally get into it very easily. The richness of the output is always interesting. Time: about 45 minutes.

Session Two: Planning Simulation

Homework Assignment: "Value Identification in Future-Oriented Planning" (page 108).

Content	Explanation
1. Planning exercise: "Planning the Junior High School of the Future" (page 116).	Participants were assigned to small planning groups based on their response to the Value Identification homework assignment. Three types of groups are used: (a) generally liberal; (b) generally conservative; and (c) mixed value groups. At the beginning, participants are unaware of which groups they fit into. Some participants wished to plan something besides a junior high school.

BREAK

2. "Anticipating the Future," multimedia presentation (page 22).	Almost by default this presentation was omitted from the first evening's futuring program. Therefore, it did not "fit" too well here. Time: 10 minutes.
3. Report out. Tutorial on divergent values.	Each planning team reported the results of the junior high school planning simulation. A process observer also reported on the ease or difficulty each group had depending on the homogeneity or hetrogeneity of the group. Time: 60 minutes.

The two sessions were conducted and videotaped on January 23 and 30, 1974. The first lecture, by Dr. Markley on Methods of Thinking About the Future, was presented live instead of as the slide tape show. The multimedia alternative futures presentation was presented toward the end of the second session when it was discovered, almost inadvertantly, that the training group had not seen it during an earlier pre-orientation meeting. The materials not mentioned in the training sessions (futures bibliography, glossary, list of future issues facing education, etc.) were distributed as handouts. (The Futures Screen had not been completed at the time of the meetings and was not germane to the introductions to futuring.)

Toward the end of the first session an exercise was used entitled, "The Intuitive Approach to Dealing with the Future: Hunches, Daydreams, and Their Values." Because no further reference is made to it in the products of the Task Force, we will describe the process here.

Warren Ziegler has written on developing futures invention exercises. (Ziegler, Warren L., Planning as Action: Techniques of Inventive Planning Workshops, EPRC, Syracuse University Research Corp., WD-7215, SURC-TR72-685, December, 1972.)

This paper suggested to the Task Force the possiblity of including a futures invention procedure in our training program. The purpose is to help people imagine themselves in future time, identifying and solving problems which they raise to consciousness.

The procedure followed is very simple. The individual is asked to relax, unwind and let the mind wander for a minute or so. Then he is asked to make a new notes on how things are different now from when he went to school. Finally, the individual is asked to imagine himself in some future time (15 years from now) and record his thoughts on how it is different from "today."

We do not have hard data on the success or usefulness of this exercise in long-range planning, but we have refined and used the technique on many subsequent occasions and have found it stimulating and suited to an introductory session on futuring. The exercise's merit--anyone can to it, regardless of his or her age, socio-economic level, education or knowledge of futuring material.

A Futures Invention Exercise

1. Ask the participants to write on a sheet of paper their personal memories to the following question: "How is it different now then when you went to (elementary) school?"

   (Allow five minutes. Do not specify either societal or educational futures.)

2. Ask the participants to read the list to his neighbor or to a small group.

   (Allow five to ten minutes.)

3. The moderator asks members of the audience to call out ideas until one blackboard is full of responses.

   (Allow five minutes--it's usually hard to turn off the response.)

4. Ask the participants to imagine that it is now fifteen years from now and they've been flown back for the occasion. Ask the participants this question: "How is it different now (1987) than it was back then in Spring, 1974?"

   (Comment that it's okay to think negative as well as positive comments. Just record whatever images occur.)

5. Ask the participants to read the list to his neighbor or small group.

   (Allow five to ten minutes.)

6. The moderator asks members of the audience to call out ideas until one blackboard is full of responses.

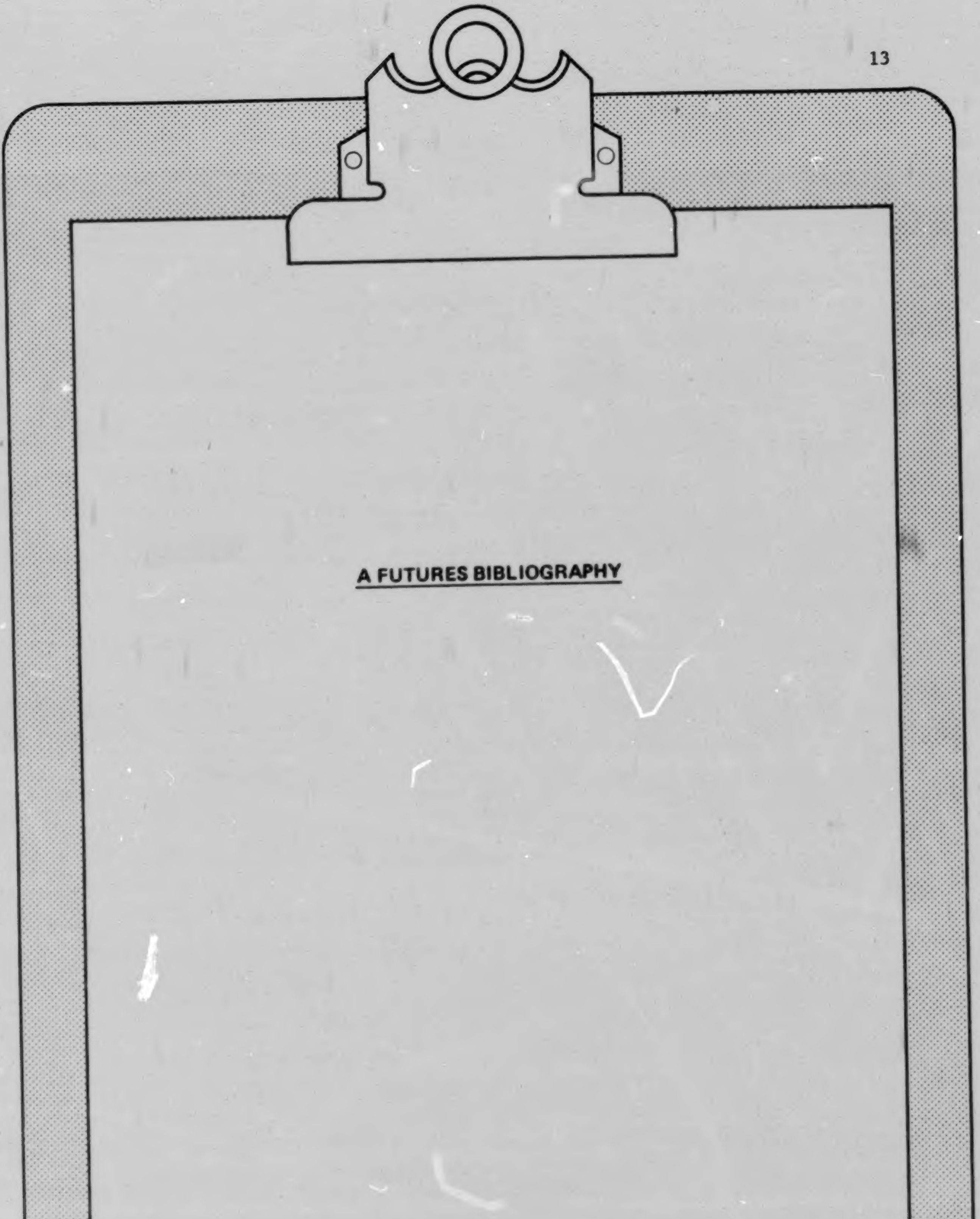
On recent occasions we have followed this exercise with a showing of the multimedia presentation, Alternative Futures for Planning, to demonstrate how many of the responses of the participants parallel one or more alternative futures portrayed there (i.e., Status Quo Extended, Economic Disappointment and Cultural Transformation). In futures invention exercises, like this one, it is important that the participants imagine themselves in the future and not just looking from the present into the future.

The Training in Retrospect

The Task Force is currently planning a second round of training for new planning teams, and, based on our early experience, we will make considerable changes in our format. Rather than conducting futures training at the beginning of the planning experience, we now believe it is wiser to provide an introduction to futuring and then to intersperse futuring experiences throughout the planning period. We will invite members of this Task Force to be available as "wandering futurists" so that planners can have ongoing futuring help.

Secondly, we believe that the exercise entitled, "Planning for the Junior High School of the Future," should not be imposed universally on all planning bodies. Instead, exercises should be based on particular interests. Finally, we plan to write three additional (not substitute) scenarios which extrapolate current Palo Alto conditions into the three alternative futures. The purpose of this material will be to help people make a somewhat easier transition from the here and now into the more distant future.

Both sessions earlier described required a hefty homework assignment and not all participants completed their homework, causing some complications during the sessions. Others wanted more specific school and education related material. Generally, the evaluation and critique of the training module by the participants indicated that all of the futuring materials had appeal for some, but none has appeal for everyone.



A FUTURES BIBLIOGRAPHY

A SHORT ANNOTATED BIBLIOGRAPHY
OF SOCIETAL AND EDUCATIONAL FUTURES

NOTE: This is a listing that was especially prepared to help newcomers to "futurism" select out of a wide literature those few works of particular interest. Except for Marien's bibliographies, the readings are listed in decreasing order of importance (for those interested in future-oriented educational planning) as rated by the Futures Task Force. Many of the annotations are taken from Marien's Essential Reading for the Future of Education.

The Futures Task Force wishes to thank Project Simu School of the Santa Clara County Office of Education and the Educational Policy Research Center of Stanford Research Institute for financial and other assistance.

Marien, Michael. Essential Reading for the Future of Education. Educational Policy Research Center, Syracuse University Research Corporation. 1970, 56 pp.

Though now only four years old, the most complete annotated bibliography of futures writing--methodology, trends, alternative futures. Contains 158 entries classified as: The Highly Recommended List; Methodology; Trends and Descriptive Futures; New Directions: Alternatives and Reforms; Journals, Bibliographies, etc.

Marien, Michael. The Hot List Delphi: An Exploratory Survey of Essential Reading for the Future. Syracuse, New York: Educational Policy Research Center, Syracuse University Research Corporation. 1972, 89 pp.

Also somewhat dated, this exploratory report lists 236 books and articles of which 192 have been rated by a panel of 14 well-qualified futurists. Indicative of the start of the art, only six documents were rated by all of the panelists, while ten documents were rated by all but one panelist (i.e., there is very little literature that is universally shared by futurists). Only one book--The Year 2000 by Kahn and Wiener--was unanimously judged as "essential."

Shane, Harold G. The Educational Significance of the Future. Bloomington, Indiana, Phi Delta Kappa, Inc. 1973, 116 pp.

This book is a rich concise, readable discussion of the need for and method of future planning. The four chapters are: The Nature of Futures Research, The Coming Impact of the Future, The Future as Discipline, Learning Designs for Tomorrow. He concludes "Education is not an imaginary invalid. The schools actually have been weakened by serious ills just as society has been beset by dangerous crises. At the same time, much of the educational significance of the future--as is implicit throughout this report--resides in the fact that the problems are not fatal ones."

Copley Press. America and the Future of Man, 1973. Available for $10.00 by writing to: P.O. Box F, Wayne, New Jersey 07470.

America and the Future of Man is part of Copley Press' innovative social experiment--Courses by Newspaper. A well-designed kit of learning materials, The Future File, is sent along with the book of essays, and includes an introductory record, a learning guide, ten self-tests, and The Future Game. This kit seems ideally suited for local adult education courses on the future.

Harman, Willis W. Alternative Futures and Educational Policy. Educational Policy Research Center, Stanford Research Institute. 1970, 40 pp.

Describes an approach to the projection of alternative futures, elements of "the world macroproblem" and presents a number of prescriptions for educational change. The report concludes that a number of "pathogenic premises" characterize the present era, and that education toward changing those premises is the paramount educational task for the nation and for the world.

Kahn, Herman and Anthony Wiener. The Year 2000: A Framework for Speculation on the Next Thirty-Three Years. New York, MacMillan. 1967, 431 pp.

A widely known and respected volume--perhaps inordinately so, considering the focus on international politics and the possibilities of nuclear war, with little or no mention of ecology, communications, transportation, education, and the global economy. Nevertheless, it is the modern classic (for the present at least). Especially see the discussion of "The Basic, Long-Term Multifold Trend" (pp. 39-64), various scenarios, and the excellent final chapter on "Policy Research and Social Change." (A less compelling but updated version is Things to Come (H. Kahn and B. Bruce-Briggs, 1972).

Vickers, Geoffrey. Freedom in a Rocking Boat: Changing Values in an Unstable Society. Baltimore, Penguin. 1970, 215 pp.

What does it mean that society is becoming more complex and interconnected--while yet undergoing an accelerating rate of change? Sir Geoffrey Vickers more clearly reveals the systemic aspects of society--and in a way that the lay person can grasp--than does perhaps any other writer. He perceives clearly the level at which radical change in the behavior of the system has to occur: not technology and economics, but political, institutional and cultural change. Written in a clear, lucid style, the book is very relevant to the concerns of school administrators and other policy makers.

Bell, Daniel. The Coming of Post-Industrial Society. Basic Books, New York. 1973, 507 pp.

This is probably the most widely discussed work in social studies of the year and will be providing controversy for months and years to come.

Professor Bell provides a masterful analysis of the present industrial society and its rise including a thorough and original critique of the variants of Marxist social and economic theory. But this view of the future--his post-industrial society--has puzzled and disappointed many reviewers. He distains the role of prophet or seer from the outset but in the final section of the book, "Coda: An Agenda for the Future," he does essay a comprehensive description. His future world is one in which a meritocratic, technological elite continues to serve a dominant political caste in the creation of a highly automated and bureaucratized world economy. Although it is a goods producing economy and in that sense industrial, it employs few people. The vast majority are in service occupations, especially those involving the exchange of information, hence a knowledge society. He foresees for the next century at least neither famine nor super abundance. The most startling feature of Bell's post-industrial society is the concept of man no longer involved in a struggle with nature and practically completely disengaged from direct relationships with production machinery totally occupied with the processes of interpersonal relations.

Meadows, Donella H., et. al. The Limits to Growth. New York: Universe Books. 1972, 197 pp.

This book demonstrates the need for the world to move from unchecked exponential growth to seeking global equilibrium. Five basic factors that determine and, in their interactions, ultimately limit growth on this planet are examined: population increase, depletion of non-renewable resources, agricultural production, industrial output, and pollution generation. Many charts and graphs are given, and implications for world, national and local concerns are given. The five chapters are: The Nature of Exponential Growth, The Limits to Exponential Growth, Growth in the World System, Technology and the Limits to Growth, and The State of Global Equilibrium.

Michael, Donald N. The Unprepared Society: Planning for a Precarious Future. Foreword by Ward Madden. The John Dewey Society Lecture, No. Ten. New York: Basic Books, $4.95. 1968, 132 pp.

An excellent introduction to explaining the need for looking at the future, who does it, how it is done, and problems encountered. The final chapter, "Some Challenges for Educators," discusses implications for education; e.g., "We must educate so people can cope efficiently imaginatively, and perceptively with information overload," (p. 108).

Platt, John. "What We Must Do," Science, 166: November 28, 1969, pp. 1115-1121.

A concise and powerful overview of the multiple crises that we are confronting, with the view that "it has now become urgent for us to mobilize all our intelligence to solve these problems if we are to keep from killing ourselves in the next few years." Two overview charts are provided (for the U.S. and the world), indicating the priority of problem areas and the estimated time to crisis, broken down in three future periods (1-5 years, 5-20 years, and 20-50 years). For the U.S., the problem areas, in order of priority, are total annihilation, great destruction or change (physical, biological or political), widespread almost unbearable tension (slums, race conflict), large-scale distress (transportation, urban blight, crime), tension producing responsive change (water supply, privacy, drugs, marine resources), other problems important but adequately researched (military R & D, new educational methods), exaggerated dangers and hopes (mind control, heart transplants), and non-crisis problems being overstudied (man in space and most basic science). It is concluded that "The task is clear. The task is huge. The time is terribly short. In the past, we have had science for intellectual pleasure, and science for the control of nature. We have had science for war. But today, the whole human experiment may hang on the question of how fast we now press the development of science for survival." Although this is one man's list of priorities, it is critically important that more thinking be generated along these lines. Although education is not directly mentioned in this article, the implications should be obvious.

Michael, Donald N. On Learning to Plan--and Planning to Learn. San Francisco: Jossey-Bass. 1973, 304 pp.

On Learning to Plan... represents "...the first detailed and systematic examination of the social psychological resistances of individuals and groups in organizations to changes required in them if public agencies are to evolve toward meeting the requirements for long-range social planning." The book is concerned with the circumstances of changing toward the application of long-range social planning, not with how to do it or the benefits of doing so. Personal, interpersonal, structural, and organizational resistances and problems are analyzed and means of dealing with them are discussed. If neglected, these issues will seriously disrupt future planning efforts, but "the necessary changes are not impossible to accomplish."

Reischauer, Edwin O. Toward the 21st Century: Education for a Changing World. New York: Knopf. 1973.

This book discusses the crucial role education must play if the world is to avoid the crises that present trends are leading toward. He says, "...the six year olds who are just starting their formal schooling... will be the leaders and average citizens of the early twenty-first century. Their generation will have to have far more expert skills and much broader knowledge about the outside world than the present adult generation, and beyond this they will have to have a much stronger sense of world citizenship if there is to be much chance for human survival. The twenty-first century may seem a long way off, but... in terms of educational preparation, it is already here."

"As things now stand, it seems much more probable that men will develop the technology to handle the problems they face than that they will be able to work out international agreements to apply this technology successfully."

"In the world it is the large majority, not the minority, that is underprivileged, and the gap is widening rather than shrinking. This problem I believe, could very well reach such explosive proportions that it will threaten the viability of all civilization."

Toffler, Alving. Future Shock. New York: Random House, $8.95. 1970, 505 pp., Bib., pp. 461-483.

Future shock is the disease of change, "the disorientation brought on by the premature arrival of the future...culture shock in one's own society...the malaise, mass neurosis, irrationality, and free-floating violence already apparent in contemporary life are merely a foretaste of what may lie ahead unless we come to understand and treat this disease." (p. 13)

The sources come from increasing transience, novelty, and diversity. Transience involves the throw-away society, the new nomads (or the declining significance of place to human life), modular man (who has modular relationships with many, rather than holistic relationships with a few), the coming post-bureaucratic ad-hocracy, and the obsolescence of information. The novelty ratio (altering the relationship between the familiar and the unfamiliar) is growing, due to science, an economy geared to the provision of psychic gratification and new family relationships. Diversity has led us to overchoice, a surfeit of subcults in the world of work and play, and a diversity of life styles enabling serial selves. This accelerating pace leads to serious psychological problems and inappropriate psychological responses such as denial, specialism, obsessive reversion (both right wing and left wing) and super simplifying.

Drucker, Peter F. The Age of Discontinuity: Guidelines to Our Changing Society. New York: Harper and Row. 1969.

An important book focusing on four major discontinuities: new technologies, the world economy (including a chapter on "The Global Shopping Center"), a society of large organizations (including a chapter on "The New Pluralism"), and the changed position and power of knowledge such that we are becoming a knowledge society--"the greatest of the discontinuities around us." This final section on knowledge (Chapters 12-17) is of immense importance to educators.

Drucker forecasts that the knowledge industries will account for one-half of the total national product in the late 1970's (p. 263) and argues that knowledge, rather than agriculture and mining, has now become the primary industry supplying the essential and central resource of production. Under these circumstances, "it is not that we cannot afford the high costs of education; we cannot afford its low productivity" (p. 334) and economic necessity will, therefore, force a revolution. "In a knowledge society, school and life can no longer be separate." (p. 324) The diploma curtain is seen as a problem, as is the prolongation of adolescence by the schools and the inherent conflict between extended schooling and continuing education. Because of our knowledge needs, "we face an unprecedented situation in which we will have to set priorities for new knowledge (p. 365) and the existing disciplines priorities for new knowledge" (p. 365) and the existing disciplines will not remain appropriate for long, if knowledge is to have a future.

Bennis, Warren G. and Philip E. Slater. The Temporary Society. New York: Harper and Row. 1968, 147 pp.

Six separate essays by one or both of the authors "to force into view certain changes affecting vital aspects of our key institutions: organizational life, family life, interpersonal relationships, and authority." In the first essay, democracy is seen as inevitable--the necessary social system of the electronic era. In the second essay, Slater looks at change and the democratic family, noting that "experiential chasms between age cohorts serve to invalidate parental authority" (p. 24). The topics that follow concern the new style organizations beyond bureaucracy, social consequences of temporary systems, new patterns of leadership for adaptive organizations, and in the final chapter on the temporary society, the necessary education is prescribed for the art and science of being more fully human: how to get love, to love and to lose love; how to enter groups and leave them; how to attain satisfying roles; and how to cope more readily with ambiguity. "For the most part we learn the significant things informally and badly, having to unlearn them later on in life when the consequences are grave and frightfully expensive, like five-day-a-week analysis" (p. 127).

Mead, Margaret. Culture and Commitment: A Study of the Generation Gap. New York: Doubleday and Natural History Press. 1970, 113 pp.

A wide-ranging essay summarizing much of Mead's thinking over the past decades and adding new insights on our unique present that is "without any parallel in the past." The argument easily follows the chapter headings: The Past: Postfigurative Cultures and Well-Known Forbearers (where lack of questioning and consciousness are the key conditions); The Present: Cofigurative Cultures and Familiar Peers (which is institutionalized through age grading); and The Future: Prefigurative Cultures and Unknown Children (where the child represents what is to come). All men are seen as equally immigrants into the new era, and "Today, nowhere in the world are there elders who know what the children know, no matter how remote and simple the societys are in which the children live. In the past there were always some elders who knew more than any children in terms of their experience of having grown up within a culture system. Today there are none" (pp. 77-78).

Rossman, Michael. On Learning and Social Change. New York: Vintage Books. 1972, 365 pp.

This book describes the techniques and ideas the author employs in working with college student groups attempting to change learning climate and methods in their colleges. His concern is with the limits and negative effects of the authority centered classroom, and his purpose is to move toward developing and using the autonomous learning skills students possess. He points to the value of group learning experiences and non-rational mental activities in helping to break established patterns. While oriented to college problems and solutions, the ideas are worth considering by secondary planners.

Coombs, Philip H. The World Educational Crisis: A Systems Analysis. New York: Oxford. 1968, 241 pp., Bib., pp. 127-226.

A competent overview of international educational trends indicating that problems of rising demand and system obsolescence are afflicting all nations in every part of the world. Although the discussion is organized around inputs and outputs, it is nevertheless highly readable, covering not only the formal system but nonformal or "periphery" education. An excellent annotated bibliography of 74 items is provided.

Ferkiss, Victor C. Technological Man: The Myth and the Reality. New York: George Braziller. 1969, 352 pp., Bib., pp. 295-327.

A political scientist looks at the vast changes transforming society and attacks "the myth of the future," which focuses attention on what is to come rather than what is (pp. 10-16). He concludes that, "Technological man is more myth than reality...bourgeous man is still in the saddle...At the same time, an existential revolution is under way that may destroy the identity of the human race, make society unmanageable and render the planet literally uninhabitable. Bourgeous man is incapable of coping with this revolution. The race's only salvation is in the creation of technological man" (p. 245). To survive, a new philosophy is required, involving the new naturalism, the new holism, and the new immanentism (p. 252).

Chapter 4, "The Prophets of the New" provides an excellent critique of prominent writers such as Ellul, McLuhan, Teilhard de Chardin, Skinner, Landers, and Marx. The unannotated bibliography lists about 500 books and 400 articles on technology, social change, and the future.

McHale, John. *The Future of the Future*. New York: George Braziller, $7.95. 1969, 322 pp.

A wide-ranging overview aided by scores of charts and photographs, with particular emphasis on ecology, technology, and planetary resources. Chapter 1 provides a good summation of future study in the context of a transition toward a world-man image, the Chapter 5 continues with a discussion of individual futurists and organizations studying the future (a continuing interest of McHale). The final chapter discusses various aspects of the emerging planetary society, concluding that "we must understand and cooperate on a truly global scale, or we perish" (p. 300).

CAN WE PLAN FOR AN UNCERTAIN FUTURE ?

ANTICIPATING THE FUTURE FOR PLANNING

--a tape/slide presentation--

This presentation is meant to convey a general cognitive background to the subject of futuring, futuring techniques, and the use of futuring in planning and a preliminary introduction to three alternative futures used in the scenarios.

The illustrations appearing on pages 30-51 are from the book Mandala by Jose and Miriam Arguelles published at $5.95 (paperback) by Shambala Publications, 2045 Francisco Street, Berkeley, California 94709. The illustrations are used by the permission of the publisher.

Slide 1

CAN WE PLAN FOR AN UNCERTAIN FUTURE?

If we ask you whether people can predict the future, you'd probably say not very often. If we ask whether we should plan for the future, you'd probably say it's worth the effort after all.

Slide 2

We all plan:

--we plan vacations, shopping trips, birthday parties
--cities plan new sports arenas
--businesses plan new products
--by planning ten years ahead we sent a man to walk
  on the moon.

Slide 3

If we want something good to happen, we have to work toward it now...or it probably won't happen.

But it's also true that the future is full of unpredictable surprises.

--earthquakes, tornados
--war, peace
--sickness health.

And who knows what else?

Slide 4

Nobody is absolutely sure what tomorrow will bring. But in the United States these days, that's no excuse for ignoring the future, or living only for today.

Our earth is suffering from severe wear and tear which we've created. As responsible people, we can work to solve these problems by taking a hard look at the future. And the future is less mysterious than you may think. Several planning approaches have been developed which can help us look ahead.

Slide 5

One approach is to decide what the most pressing current problems are, set priorities for them, work to solve them, and then start over again, defining and solving problems as they occur. This is called the problem-solving approach to planning. Politicians who are in office for a limited term are more likely to be interested in activities which will have an immediate payoff. They want quick results.

Business executives use a fancy word called "discounting" which means that they favor actions which have the highest immediate return on investments, much like the politician. The further into the future an action is, the greater that plan is discounted.

The argument in favor of the problem-solving planning approach is that it's a practical way of moving into the future. Results are likely to show up right away. It's sensible and down to earth.

Critics argue that problem-solving is often short sighted. Many of the problems of pollution, for example, have been caused because too many businesses failed to take a larger, longer view. For example, disposable bottles and cans provide convenience, but slowly use up limited resources and litter the land. The problem-solver may win the battle, but lose the war.

Slide 6

A second way to plan is called extrapolation. That's a big word for making predictions based on past facts and trends. For example, if we know how many children are likely to attend school over the next five years, and we've established a teacher-pupil ratio, we can quickly calculate exactly how many teachers we'll need and how many tables and chairs and books to buy. Economists and businesses have forecasted, with great accuracy, sales trends well into the future.

Herman Kahn, a well-known futurist, has made a list of present trends which he believes will characterize the future development of our Western culture...trends like:

Slide 7

--increasing wealth and leisure
--increasing military capability
--centralization and concentration of economic and political power
--increasing tempo of change
--and many more.

Extrapolation in planning assumes that, like large ocean vessels, major trends are very hard to stop or change...that trends are reliable predictors of what will happen in the future. Most scientists are extrapolators.

But the extrapolators sometimes neglect a very important question...What do we want the future to be like? And how can we change our ways of doing things to make it better and safer for more people? The extrapolator trades in the known and the rational...his trends don't take into account the unexepcted, the unknown or the values for good or bad.

Slide 8

A third major approach to the future requires looking at possible alternative futures. The alternature futurists say..."knowing what we know about economics, political science, soicology, technology...what are the different futures that could emerge? And, which of these futures are worth working toward?"

One of the most famous alternative futurists, Willis Harman, describes 40 different futures which he believes possible...they range all the way from collapse of the planet to a new golden age of man. These future histories, based on careful combinations and recombinations of factual trends, are called scenarios.

Slide 9

Once the alternative scenarios are worked out, people can begin to choose among them and make plans to attain a desirable one or prevent the dismal ones from happening.

The strength of the scenario technique is this--people can get a strong personal feeling for what possible futures might really be once they're able to look at detailed descriptions.

And once a direction is selected, wishing and hard work often make it so! The focus is on what we ought to do (or not do), rather than on what has been done or what is most likely to happen.

If extrapolators look back to learn the track on which we're now moving into the future, the alternative futurists focus on the ways that track might change.

Slide 10

Another future planning school of thought which is now emerging attempts to combine both past history and alternative futures. It's hard to pin a name to this category. Some call it cybernetic planning, or feedback planning, or the system dynamics model of planning. Here, both forecasting, futuristics and uncertainty are part of the planning process. Futurists who use this technique reason that current decisions should be made with a strong sense of both the past and future.

Slide 11

The basic notion is that, in the long run, all systems operate by a few known rules of organization and self-generation. Here's an example: In 1971, a group of MIT researchers projected population, food consumption, pollution, and industrial output and resources data from 1900 to the year 2001. The results suggest potential future catastrophies--mass starvation, depletion of critical metals, and other disasters. The report, called "The Limits to Growth," has had an enormous effect on world opinion and has spawned at least 40 new international systems studies. In other words, "The Limits to Growth" study itself gave feedback to planners which in turn stimulated new ideas and shaped new activities in the present.

The planning techniques we've described so far are logical and based on reason. But as one futurists has warned, "if you try too carefully to plan your life, the danger is that you will succeed...succeed in narrowing your options, closing off awareness of adventure that cannot now be imagined perhaps because they are not yet technologically possible."

Slide 12

How can we avoid the limitations of the "merely rational"? One way is to use intuition. All of us have hunches--flashes of seeing the future. We talk about a "woman's intuition." And some businessmen seem to make exactly the right decision at the right time. In fact, Professor Douglas Dean at the Newark College of Engineering, wondered whether successful executives have better than average ability to make decisions based on hunches. He had a group of them predict a random series of numbers which a computer would generate randomly at some future time. Sure enough, the successful executives studies scored significantly above chance levels.

Slide 13

Slide 14

Sometimes experts use an interesting prediction tool for "telling the future" called The Delphi Technique, a method based on their past knowledge plus a bit of intuition. If we wanted to predict the future of education using The Delphi Technique, we'd choose a panel of experts who would spend several hours alone writing answers to a questionnaire. Typical questions in a Delphi survey might be: What future events do you think will have a strong impact on education? How probable is the event? When will that event occur?

When the answers are compiled, each panelist is told what the others have said. The expert is asked if he wants to change his opinion based on new ideas provoked by what the others have reported. By repeating this revision process several times, the group eventually tends to reach a consensus about what the future might bring.

The Dallas school system is now doing a Delphi study as part of its long-range planning program.

Slide 15

In a scientific society, it's hard to get used to the idea that maybe some people can see into the future. But, without turning people into clairvoyants, new techniques can help most people do that far more usefully than they think possible. One idea is to imagine yourself in a future time--say 1985. Then, ask yourself, "What is it like; what is going on; what do I see?" The technique, called "futures invention," seems to work quite well, frequently providing rich, detailed descriptions of the future to use as checks against the rational methods of planning.

In summary, we have many tools to help us plan for an uncertain future--it's being done every day.

By now you're probably wondering what the planning experts say lies ahead for us. We can't tell the whole story, nor do we pretend to have all the answers, but here are a few central ideas to mull over.

Dr. Jonas Salk, the scientist who invented the oral polio vaccine, suggests a simple way to understand our current situation. Looking at man's history with the eye of a biologist, Dr. Salk says he detects two distinct phases.

Slide 16

First, there is a growth phase which moves slowly at first, then more rapidly as humans are better able to dominate their environment. Then, as ecologic limits are reached, the species must gradually back off toward stability. Dr. Salk calls the first phase, which includes all of our history to date, Epoch A--an epoch which depended on individual actions, competition and survival of the fittest.

He calls the second phase, which he believes we are now entering, Epoch B--a future of population control, limited consumption, cooperation among man and survival of the wisest, not the fittest.

Slide 17

Right now we're at a crossroads. We have to decide to continue growing as we have or to taper off--seeking dynamic regulation of our planet.

Some people believe that we are already heading toward dynamic regulation--self-control of our limited resources. The futurists call this possibility a cultural transformation.

They see emerging a society which is more spiritual, seeking wisdom rather than wealth; a society where population control and conservation is practiced, where much cooperation among nations is possible.

If, on the other hand, we continue the status quo and the entire world continues to be industrialized and consumption oriented, we'll need a series of technological miracles to avoid ecological suicide. For example, we don't have enough available energy to go around. If we keep using up our resources at the current rate, we must discover entirely new technologies for energy production. Some say we can and will because science and technology can harness the fusion reaction and create limitless energy.

But, some futurists predict if we persist in our current ways without technological breakthroughs, dire troubles lie ahead. Some say we are already experiencing precursors of these difficulties--brownouts in major cities, runaway inflation, eye-burning smog. If you listen to some forecasters, you'll hear them saying that we are in serious danger of economic collapse. At best, we know that we're already experiencing signs of system instability, and at worst we may be headed for severe economic disappointment.

We call your attention then to these three primary alternative futures:

Slide 18

--Cultural transformation
--Status Quo Extended
--Economic Disappointment.

As you search the daily newspapers and look around you, you'll probably see signs of all three of these futures.

You can decide for yourself which one is the most likely to come to pass and which is most worth trying for.

What about the future of education? What do the experts say? Here's a list of issues which schools will probably face in the next five years:

Slide 19

--declining enrollment
--financial problems
--increasing employee unionism
--competency based evaluation
--emphasis on programming, not hardware.

Likely to occur, but not quite so probable, are these issues:

Slide 20

--changing credentialing methods for teachers
--universal post high school opportunity
--lifetime learning
--emphasis on out-of-school experience
--conflict about control of learning.

Less likely to occur, but nevertheless possible, are these issues:

Slide 21

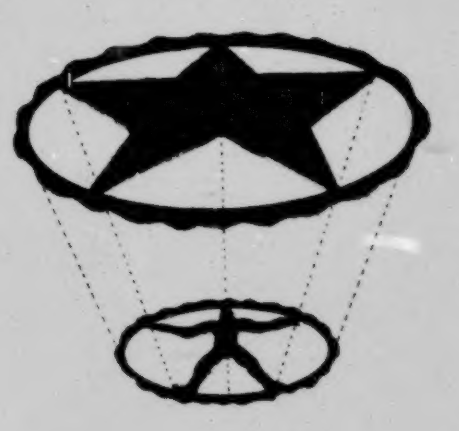
--year round schooling
--tenure laws challenged
--voucher systems
--re-emphasis on basic skills.

You could make up your own list of possible educational futures to suit your immediate situation. What happens in this school district will depend on a combination of things--the needs we have at the moment, the changes that are forced on us by external events such as federal and state legislation, the general trend our society takes, and our own choices.

Slide 22

We can plan for an uncertain future. Maybe we can't eliminate all of the surprises, but we can decide from time to time what is best for us and then try to make it happen.

CAN WE PLAN? FOR AN UNCERTAIN FUTURE



Slide 1

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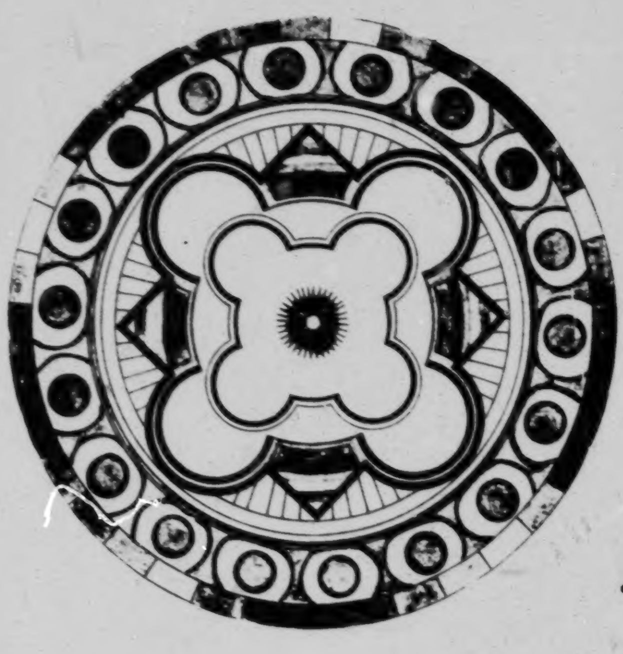


ALL OF US
PLAN

Slide 3

WE CANNOT
IGNORE THE
FUTURE

Slide 4

Approach 1

PROBLEM SOLVING

Approach 2

EXTRAPOLATION

Examples of Extrapolation Trends

- ·INCREASING WEALTH AND LEISURE
- ·INCREASING MILITARY CAPABILITY
- ·CENTRALIZATION AND CONCENTRATION OF ECONOMIC AND POLITICAL POWER
- ·INCREASING TEMPO OF CHANGE
- ·ETC.

Approach 3

ALTERNATIVE

FUTURES

Slide 8

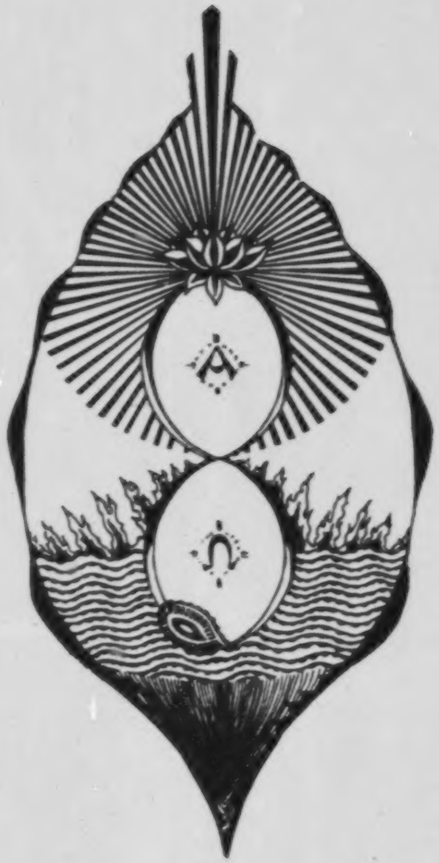
Examples of Alternative Futures

- ·EXUBERANT DEMOCRACY
- ·POLLUTION STALEMATE
- ·COLLAPSE

Slide 9

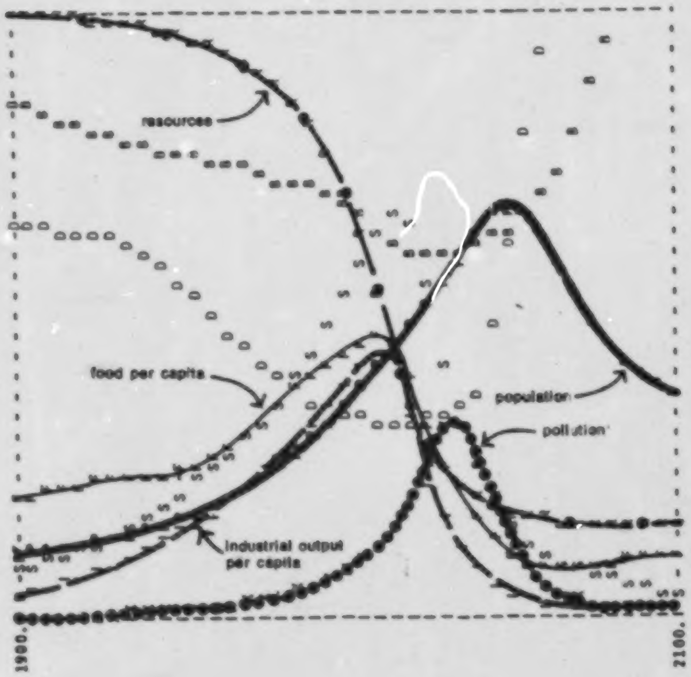
Approach 4

FEED BACK



Slide 10

WORLD MODEL STANDARD RUN



- resources
- food / capita
- population
- pollution
- industrial output / capita

adapted from: LIMITS TO GROWTH, Dennis L. Meadows, et al., 1972

Slide 11

Approach 5

INTUITION

Slide 12

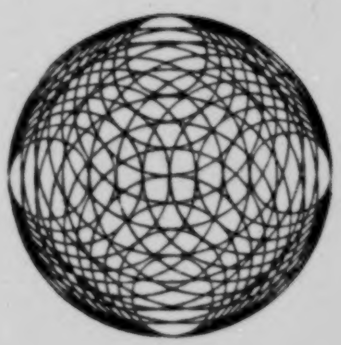
DO SUCCESSFUL EXECUTIVES HAVE ESP?

Slide 13

Typical Questions for a Delphi Survey

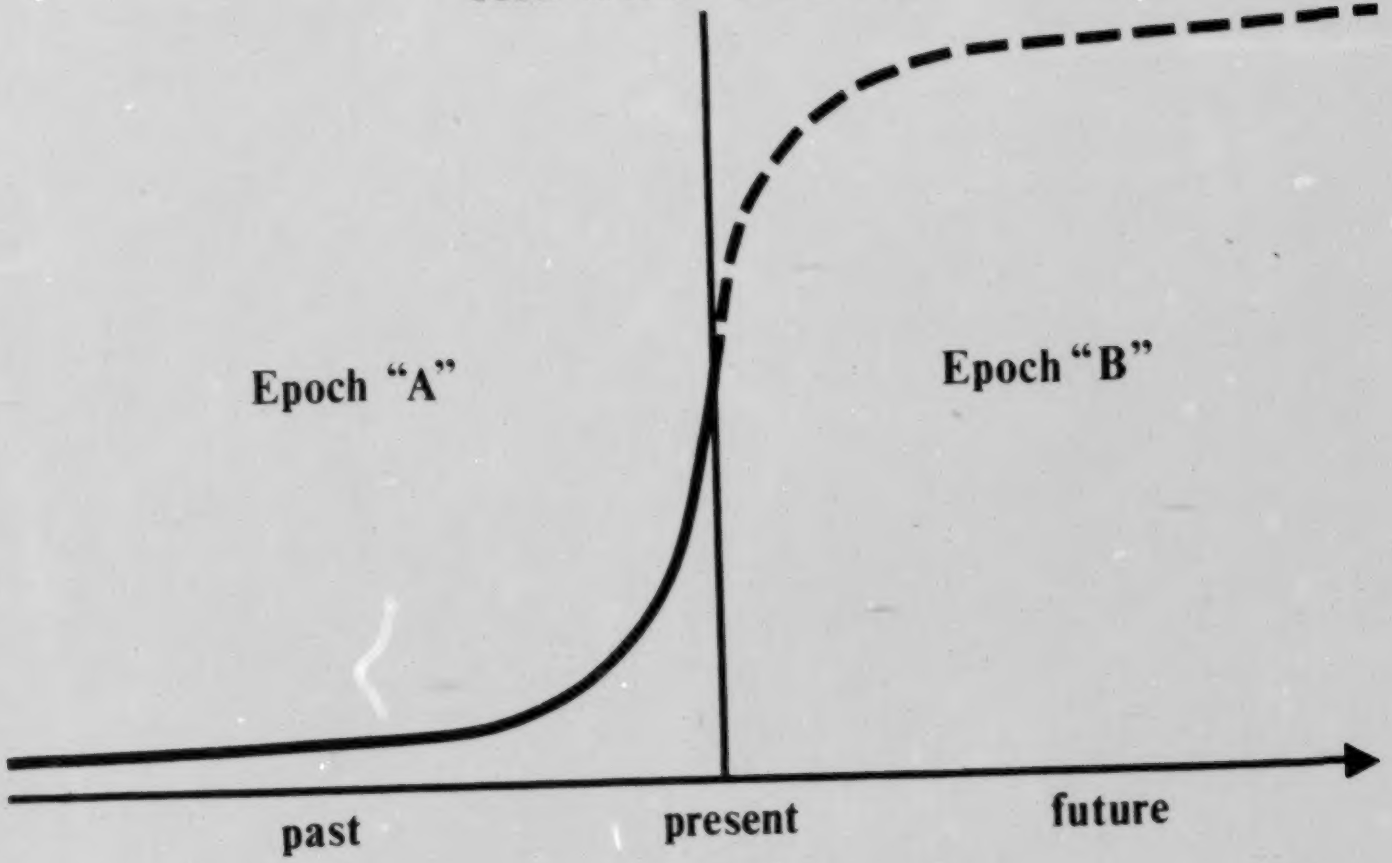
- WHAT FUTURE EVENTS DO YOU THINK WILL HAVE A STRONG IMPACT ON EDUCATION?
- HOW PROBABLE IS THE EVENT?
- WHEN WILL THAT EVENT OCCUR?

Futures Invention: 1985



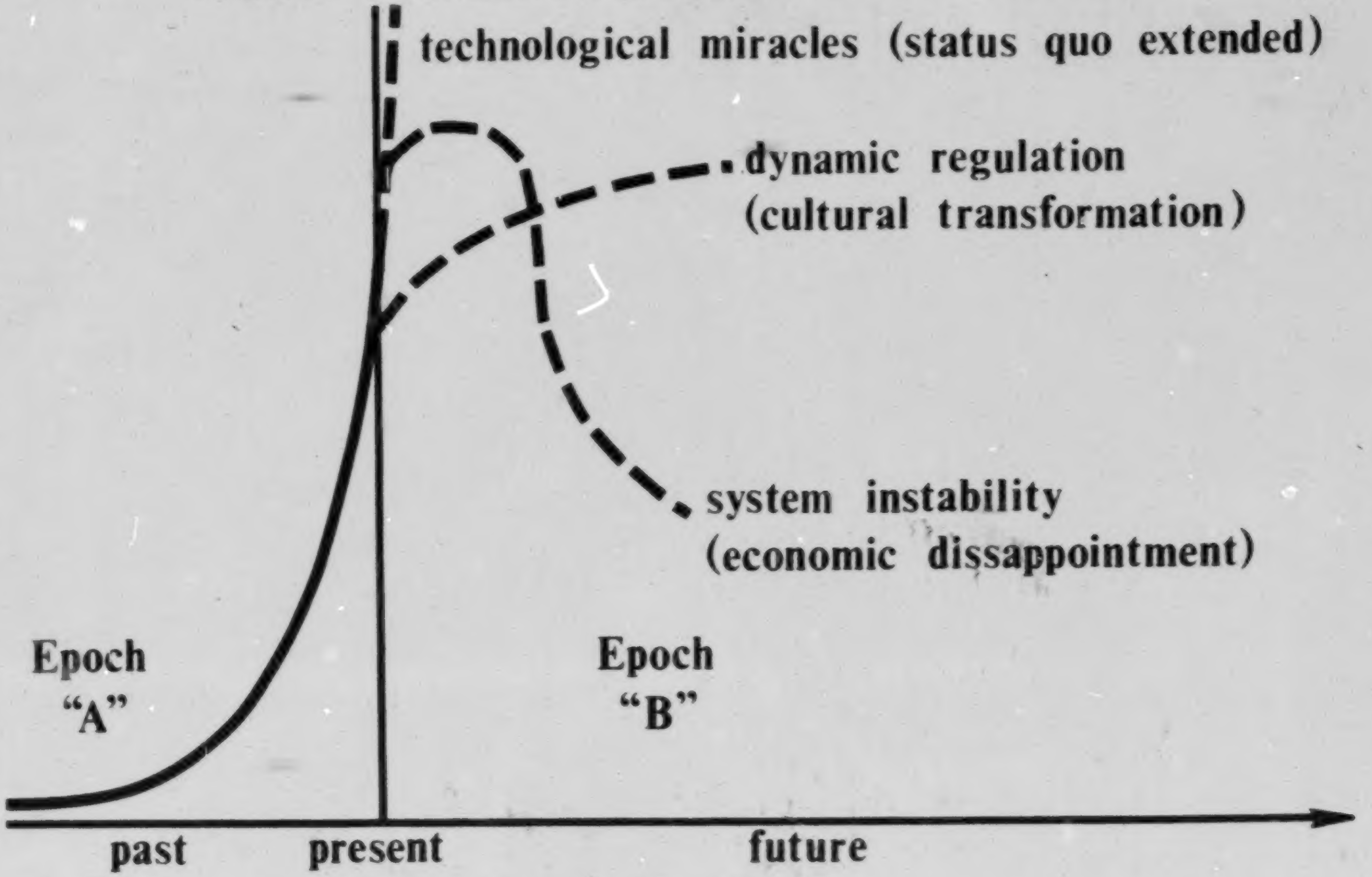
- WHAT IS IT LIKE?
- WHAT IS GOING ON?
- WHAT DO YOU SEE?

THE SALK "S" CURVE



Slide 16

THREE PRIMARY ALTERNATIVE FUTURES


technological miracles (status quo extended)
dynamic regulation
(cultural transformation)
system instability
(economic dissappointment)
Epoch
"A"
Epoch
"B"
past
present
future

Three Primary Alternative Futures

- CULTURAL TRANSFORMATION
- STATUS-QUO EXTENDED
- ECONOMIC DISAPPOINTMENT

Probable Educational Issues (five years)

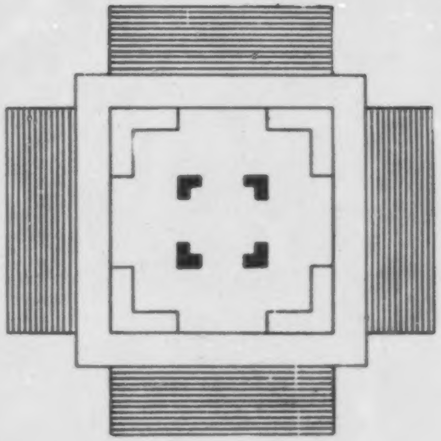
- DECLINING ENROLLMENT
- FINANCIAL PROBLEMS
- INCREASING EMPLOYEE UNIONISM
- COMPETENCY BASED EVALUATION
- EMPHASIS ON PROGRAMING, NOT HARDWARE

Likely Educational Issues (five years)

- CHANGING CREDENTIALING METHODS FOR TEACHERS
- UNIVERSAL POST-HIGH SCHOOL OPPORTUNITY
- LIFETIME LEARNING
- EMPHASIS ON OUT-OF-SCHOOL EXPERIENCE
- CONFLICT ABOUT CONTROL OF LEARNING

Less Likely Educational Issues (five years)

- YEAR 'ROUND SCHOOLING
- TENURE LAWS CHALLENGED
- VOUCHER SYSTEMS
- RE-EMPHASIS ON BASIC SKILLS



To see the future . . .
look into a child's eyes.

Margaret Mead

THE VIEW FROM 1985

Three scenarios depicting plausible aspects of the society and Palo Alto public education in the future:

I. Status Quo Extended

II. Economic Disappointment

III. Cultural Transformation

These fictionalized scenarios were created as think pieces to encourage planners to incorporate societal trends into their school planning. A second purpose was to illustrate the use of the scenario as an imaginative planning tool.

THE VIEW FROM 1985

The three scenarios are entitled, Status Quo Extended, Economic Disappointment, and Cultural Transformation. Together they provide a very limited but representative sampling of some forty alternative future histories. These three were chosen because each is quite plausible as is reflected by the significant numbers of people who seem to anticipate each, because together they constitute a broad range of future possibilities and because the characteristics of each are highly relevant to the feasibility of various plans for our schools.

The view from 1985 emerges from those trends that most concisely capture where we now seem to be going as a society (in contrast to where we have been). In essence, these trends describe a worldwide spread of industrialism and an increasing rate of change and consumption of energy and other resources; and, in the United States at least, they describe the concentration of economic and political power, increasing leisure and "service" occupations, and the emergence of manipulative social engineering.

The Status Quo Extended scenario is one in which the current trends continue to represent the predominant goals of the society, and, therefore, continue to the extent that problems allow. Emerging trends, however, such as the exportation of jobs by multi-national corporations, inflation, tightening economic conditions, and energy-related unemployment bring about a significant conflict of priorities in the 1976 elections: environment versus jobs, and job-oriented education versus education for its own sake.

Crash programs are immediately launched to use science and technology, both to create new jobs and to solve the pressing problems of society: energy, vandalism, pollution and so forth. They are reasonably successful but bring with them a type of social and psychological engineering that eventually comes into question.

The Economic Disappointment scenario assumes that the combined effects of various problems make a rather severe economic depression impossible to stave off shortly after the elections of 1976. Although there would be a number of national impacts of such a depression, the scenario primarily concerns itself with the impact on the Palo Alto Unified School District which, together with proposals for restructuring of the Palo Alto schools, causes an embittered fragmenting of the educational community in Palo Alto.

The scenario of Cultural Transformation assumes that the depression which occurs in the Economic Disappointment alternative provides a positive stimulus for the reshaping of national priorities rather than for retrenchment. Conspicious consumption, competitive status seeking, and other values that typified the industrial era are transcended and new social institutions emerge as social scientists and the schools attempt to better understand how to expand consciousness and to use what they have learned to help create a better, though less uniform, society.

Although all three scenarios begin with currently observed trends and proceed in directions that are at least plausible, the specific future events portrayed are, of course, fictional and illustrative. They are offered to help provide a sense of what future-oriented planning for Palo Alto Unified School District might entail, and are thus meant to stimulate discussion and constructive planning in more creative directions than otherwise might occur.

Status Quo Extended

Two views of general societal trends developing in the last 1960s and early 1970s are portrayed in Table 1. The most important of these trends seemed, at the time, to be the increasing rate of change, the growing size of the major cities, and the spread of industrialism throughout the entire world. Not seen at that time was the necessity, by the early 1980s, to almost abandon some of the major centers like New York City where the combined problems of pollution, congestion, and violence virtually got out of control. Interestingly, however, even in 1973, two new trends were foreseen that have grown enormously stronger by now in 1985.

The first of these new trends is the increasing "centralization and concentration of economic and political power" which resulted from the growth of multi-national corporations with interlocking directorates--many of which command resources that are larger than most of the national governments of the world. The second trend has to do with what Kahn and Bruce Briggs (1973) termed "innovative and manipulative social engineering," although by 1978, this had become known as "sopsych" engineering--"sopsych" standing for the new integration of the cultural-psychological applied sciences and technology.

Although the rapid rate of change in society during the 1970s was expected to produce much "future shock" during this decade, it didn't turn out that way. Tightening economic conditions and the application of sopsych technology effectively cooled out the forces for violence and change in most parts of the country.

A turning point was 1976, a year of elections. From 1970 onward, economic conditions had steadily worsened. The dollar was devalued four times (in 1972, in 1973, in 1974, and in early 1975), and a fifth devaluation was barely staved off just before the elections in 1976. A key difficulty stemmed from the mode of growth of multi-national corporations (which transplanted most of their labor-intensive operations to developing nations with lower wage rates), a continuing series of energy "crises" and the failure of the administration's wage-price policies--which, once abandoned, led to a rapid spiral of rising wages and prices.

The central campaign issue of 1976 revolved around two questions related to jobs. One was reduced to the phrase, "environment versus jobs"; the second concerned education as an end in itself versus education for work and the making of work. As the inflation rate by 1976 had already risen to 25% per year, and with the average unemployment rate hovering around 15%, the job candidates scored a landslide, and a new era of domestic policy was proclaimed. Thus, although a number of student and liberal

Table 1

The Long-Term Multifold Trend of Western Culture

1. Increasingly sensate (empirical, this-worldly, secular, humanistic, pragmatic, utilitarian, contractual, epicurean or hedonistic, and the like) cultures.
2. Bourgeois, bureaucratic, "meritocratic" democratic (and nationalistic?) elites.
3. Accumulation of scientific and technological knowledge.
4. Institutionalization of change, especially research, development, innovation and diffusion.
5. Worldwide industrialization and modernization.
6. Increasing affluence and (recently) leisure.
7. Population growth.
8. Urbanization and (soon) the growth of megalopolises.
9. Decreasing importance of primary and (recently) secondary occupations.
10. Literacy and education.
11. Increasing capability for mass destruction.
12. Increasing tempo of change.
13. Increasing universality of the multifold trend.

Source: The Hudson Institute (Kahn and Wiener, 1967)

A Later Version of the Basic, Long-Term, Multifold Trend

1. Increasingly sensate (empirical, this-worldly, secular, humanistic, pragmatic, manipulative, explicitly rational, utilitarian, contractual, epicurean, hedonistic, etc.) cultures.
2. Bourgeois, bureaucratic and meritocratic elites.
3. Centralization and concentration of economic and political power.
4. Accumulation of scientific and technical knowledge.
5. Institutionalization of technological change, especially research, development, innovation and diffusion.

Table 1 (cont.)

6. Increasing military capability.
7. Westernization, modernization, and industrialization.
8. Increasing affluence and (recently) leisure.
9. Population growth.
10. Urbanization, recently suburbanization and "urban sprawl"--soon the growth of megalopoli.
11. Decreasing importance of primary and (recently) secondary and tertiary occupations; increasing importance of tertiary and recently quarternary occupations.
12. Increasing literacy and education and (recently) the "knowledge industry" and increasing role of intellectuals.
13. Innovative and manipulative social engineering; i.e., rationality increasingly applied to social, political, cultural, and economic worlds as well as to shaping and exploiting the material world--increasing problem of ritualistic, incomplete or pseudo rationality.
14. Increasing universality of the multifold trend.
15. Increasing tempo of change in all the above.

Source: The Hudson Institute (Kahn and Bruce Briggs, 1972)

Note the addition of trends 3 and 13 in the 1972 set.

groups had used the 1976 Bicentennial Anniversary of the American Revolution as a rallying point around which to emphasize "quality of life" goals to supercede the technocratic goals of industrialism, the "Mandate of '76" (as it was called) filled Washington with technical specialists who were to use their expertise to create more jobs and in so doing were to raise the quality of life and environment in the society as well.

Crash programs were immediately launched to provide job retraining for any adult who wished it and to provide all youths from 12 onward with on-the-job training and socialization experiences. Some new jobs were created by highly funded research programs to discover new methods for obtaining electrical energy and to resolve enviornmental pollution problems and problems of antisocial behavior, but most new jobs were created in the area of "human services."

High tariffs and value-added taxes were imposed on all labor-intensive imports, actions that cooled the inflationary spiral and balance of payments problems somewhat. Thus, while the new job-oriented federal strategy had it difficulties, it was sufficient to turn the economy to a mild upswing.

The "Mandate of '76" had a profound effect on both the public and private schools. The increasing oversupply of persons who were highly credentialed but poorly trained for available jobs--a trend that seemed a problem during the early 1970s--suddenly seemed reversed as a whole new market opened up for the teaching profession. Proprietary schools grew more quickly than the "traditional" schools, however, because they could demonstrate more relevance in their job-oriented course offerings. Thus, both federal and state educational policy gradually steered the public schools away from trying to prepare persons for jobs. Instead they emphasized the "three-R" type basics, and the essential interaction skills which the "sopsych" oriented educators and behavioral scientists had managed to sell--largely as a way to control vandalism, "dropping out," and drug abuse, all rapidly growing problems during the early seventies.

The Palo Alto schools remained well in advance of these developments throughout the decade of the '70s due to their pioneering efforts at future-oriented local-level planning. Indeed, two of Palo Alto Unified School District's Project Redesign recommendations which were initially adopted in 1974 had to do specifically with these two areas of concern--"vocational life" and "social life" education. In their 1973 survey of educational needs in Palo Alto, two of the biggest problems expressed by the young and the old in Palo Alto were lack of meaningful work with the larger community and upheavals in "primary social group" (the family or its substitute). Project Redesign advocated that a new type of educational research/teaching approach be tried, one in which citizens with what Maslow (1962) termed unfulfilled basic needs were helped to discover and create the kind of situation and skills with which to fulfill those needs. Family life "re-education" (meaning research and education as well as research for education) was the first to be developed, and a multi-generational course on "alternative family lifestyles" was immediately adopted by several alternative high schools, in cooperation with the Palo Alto Unified School District Adult School. A similar approach focused on community and job involvement for both young and old.

By 1980, although a number of technological breakthroughs (most notably those that increased energy and food production) had been discovered through use of "sopsych" group creativity techniques, a national reaction against the extremes of "sopsych" educational technology was emerging. Its opponents branded it "friendly fascism," using the term advanced in 1970 by the policy scholar Bertram Gross. They argued that this type of education was virtually akin to "brainwashing," although such educationist jargon as "stimulus-controlled learning" sounded otherwise. Here again, the learner-centered educational approach used in the Palo Alto schools (and in others which followed Palo Alto's approach) was ahead of what seemed to be the current national trend. Hence, although Palo Alto Unified School District schools incorporated many of the new "sopsych" educational methods, they typically did so by adapting them to the district's educational philosophy, rather than simply adopting them across the board.

Economic Disappointment

Although the "multifold trend" shown in Table 1 was expected by most "experts" to continue until at least the 1980s, they simply did not reckon with two economically destabilizing elements. The exporting of jobs by multi-national corporations and the administration's wage-price policies simultaneously increased inflation, unemployment, and eventually shortages of key imported materials (e.g., crude oil and chromium). Thus, shortly after the elections in 1976, the new administration simply could not keep the economy in balance any longer. The Dow Jones Average fell to 500 in a matter of days, and while the Federal Reserve System protected the majority of the commercial banks from collapse, jobs became so scarce that many home mortgages had to be foreclosed.

Since the baby boom had by this time passed the high schools, enrollments (hence state aid) dropped off, and educational expenditures for any and all "frills" in elementary and secondary education were soon cut off, and indeed, about ten percent of all elementary schools in urban regions were closed. Even before the depression, there was an increasing oversupply of "credentialed" persons as compared to the job market, hence teacher unemployment became more severe after the depression hit.

All this served to accelerate the rapid growth of teacher's unions, and soon thereafter administrator's unions, and in many states, collective bargaining went to the state level.

The bicentennial celebration of 1976, which for many (even before the depression) caused a re-examination of national goals, led to an intense national debate as to what would constitute appropriate post-depression goals, strategies and policies. Although much of the debate centered around the slogan, "quality of life versus standard of living," the more immediate issue was in many ways "continuation versus replacement of the Neo-Keynesian economic doctrine." In the end, the position annunciated was that immediate impact on the environment would have to give way to the recreation of jobs and a decent standard of living for the majority of Americans; hence, the gross national product and consumption/growth oriented neo-Keynesian doctrine was continued. (But, in fact, no viable alternative to this doctrine emerged and even now, in 1985, it isn't clear whether or not this doctrine would remain viable under conditions of severely limited growth in the production and consumption of goods and related services.)

The growth of teacher unionism led to a number of strikes and by 1980, strife between the NEA and AFT, the teacher unions and the administrator unions led to a merger that created the monolithic Union of American Educators. In 1982, the educators' union called a nationwide strike and, in the resulting litigation, labor unionism was for the first time made subject to antitrust legislation. As a result, the union was broken up into specialty and statewide unions.

Meanwhile local education in most parts of the nation suffered greatly--and Palo Alto was no exception. Although Palo Alto teachers had voluntarily taken a pay cut during the great depression of the early thirties, things were different this time.

Simply stated, one view of what happened is as follows. During 1973-74, Project Redesign considered a number of different philosophies and strategies with which to guide the Palo Alto Unified School District's operational policies during the coming decade. Although things started out peaceably enough, several seemingly constructive but fairly radical plans were advanced by different School/Community Planning Teams and these plans soon became very controversial.

One of them had to do with thorough-going "consumer control" of education, using a system of "educational vouchers." The other had to do with totally reworking the administrative system--retaining the board of education but replacing the superintendent and the position of principal in the schools with a "management team" concept (using teachers, students, parents and administrative specialists) that was advocated to make the executive management of the schools more participatory and more democratic in nature. Although initially there was much reluctance to embrace such radical innovations, many of the people actively involved in Project Redesign came to favor one or both of them when it was pointed out that the new plans could make the schools truly democratic. Some schools would follow a restorative strategy which would follow traditional lines, while others would follow strategies which were agreeable to the students, teachers and parents involved.

Many of the teachers, administrators and community people not involved in Project Redesign, however, actively opposed the innovations. Although some attempts were made to facilitate a constructive dialogue between the different points of view, argumentation won the day, and gradually the arguments became somewhat more emotional than rational as factions coalesced in the community. The traditional approach finally won out, but in the process, a majority of the teachers and administrators became quite embittered about the issue of "community control of the schools." Hence, when the economic crunch of the late seventies came, the professional educators in Palo Alto (as in so many other communities) stood firm together in the fight to preserve the hard-earned gains they had made over the past decades.

Unlike many other communities, however, the Palo Alto schools were even harder hit by the economic crunch since many of the Palo Alto parents who retained their relatively high paying jobs in spite of the depression sent their children to fairly low-cost cooperative "open classroom" private schools begun by out-of-work teachers. Thus, although Project Redesign ultimately failed in its attempt to redesign the public educational system in Palo Alto, a new system of education nevertheless emerged.

Cultural Transformation

One of the trends which the researchers at the Hudson Institute didn't see fit to include in their "multifold trend" (but which other researchers at that time had detected) was the trend toward newly emergent, post-industrial values. As the Yankelovitch (1972) data and other studies showed, already by the early seventies, youth elites and others were turning away from the values of "ever-increasing consumption" and "competitive status-seeking" as a way to gain one's self-image. Although numerous books and articles dealing with the topic of cultural transformation appeared at that time (e.g., Leonard's Education and Ecstacy, and his Transformation; Vickers' Freedom in a Rocking Boat; Roszak's Where the Wasteland Ends; Rossman's On Learning and Change; Harman's Alternative Futures and Educational Policy; Markley's Changing Images of Man) institutional application of these concepts remained largely invisible to most citizens until after the bicentennial celebration of 1976, and the economic crash of 1977.

Perhaps the most singular event of 1977 was the winning of an academy award, a Pulitzer Prize (and as it later turns out, a Nobel Prize) for the multi-media production of "How It Started--How Will It End?"--a sort of experiential pop-political anthropology review of the human condition and the human possibility. The production was the result of several years of careful scholarship and cooperation between gifted workers in a number of different disciplines in the sciences, the humanities and the arts. They were brought together for this purpose by a consortium of foundations who funded the project at a level of $10 million for three years. Once produced, however, it grossed $10 million in its first year of showing alone. Its points, very simply, were that not only is "no man an island," indeed, we are all interconnected systems--systems of matter, systems of agreements and expectations and most importantly, systems of consciousness. A number of new breakthroughs in mathematical-transphysics, in the science of consciousness and in the arts make it possible for us--both personally and as a culture--to become more conscious. By attaining this greater degree of awareness, we can overcome problems of ignorance and personal or group differences. In short, as Buckminster Fuller (1970) said, we can "do more with less" by "ephermeralizing" our knowledge and our technology.

Simultaneously, a new economic theory was advanced by a multi-disciplinary group of scholars in India. Their doctrine suggested that the significant "coinage" of a culture should be based on the karmic notion of "just" payment for satisfactory service given and received--the opposite pole, so to speak, from the doctrine expressed by "let the buyer beware." Although the theory was initially thought to be impractical, two seemingly unrelated new technologies made it become feasible.

One was the development of an extensive computer and credit card based system of doing accounting and quality of life measurements; the other stemmed from a newly discovered type of electro-encephalography which, among other functions, served as a sort of super lie detector which tapped a deeper level of truth (that stemming from what some mystics term "the superconscious self"). Thus, there was both the way to enter time-delayed feedback into profit and loss accounting and a "natural science" based "court of last appeals" for disputants.

Another key social invention was made in 1980 by Stanford University's Center for Transformational Synthesis and Discovery. A graduate student at the Center noted that the advocacy-adversary methods used in law court procedures and in Robert's Rules of Order often tend to reduce, rather than increase the level of trust between participants, and hence make creatively synergic solutions more difficult to discover. By experimenting with various conflict-management approaches used in different cultures, the Center developed a workable conferencing technique which synthesized the best elements of the Japanese martial art of Aikido, the American group-dynamic art of Organizational Development, and the Society of Friends' (Quaker) "silent meeting" technique for gaining group consensus.

As a result of events like these (which suddenly seemed to be increasing almost geometrically), both education and science turned much attention to the study and development of consciousness, both personal and cultural. Correspondingly, the fundamental goal of education came to be redefined in a way that then seemed simultaneously both radical and conservative. It was radical in that it harkened back to the root meaning of education, which stems from Latin educere--meaning "to bring forth, as something latent," and it was conservative because it attempted to preserve and nurture the latent essence in man, rather than using education as only an overlay process of "teaching new facts."

Initially these changes had little effect on the structure of the public schools. Attention was first given to the more immediate task of translating the new insights into tangible pedagogical processes. But gradually the issue of administrative structure changed to the issue of administrative process needed to facilitate personal and group learning and problem solving.

Although these changes came as quite a shock to public school teachers and administrators who had not bothered to keep up with new developments in their field, this was not the case in Palo Alto. Indeed, the Palo Alto schools which had joined a consortium of cooperating "re-education" institutions, were often the first to pioneer some of the new techniques, such as the Bulgarian psychologist Georgi Lozanov's use of relaxation and suggestion to enhance learning and integration of skills like the "three-R's", foreign languages, and voluntary control over psychosomatic and psychoneurotic illness.

From this 1985 perspective, it is difficult to know what will happen next. We can't deny that this societal change has been disorganizing and destabilizing for many persons and groups, producing periods of great individual stress and wide social conflict. However, it seems that disruptive aspects of the changes brought about by the "evolutionary transformationalist" values and policies are now likely to decline.

While there are still many problems to be solved, there now seems to be a pervasive feeling throughout the country that (both individually and in groups) American citizens can, in fact, once again create the kinds of life they desire for themselves and their children. Although the degree of outspoken differences in preferred lifestyles, in local policies, and the like is now greater than at any time in our history, there is also a growing recognition that, as with natural ecology, such differences--now that we have learned to non-violently manage overt conflict--do indeed make a culture that is both richer and has increased its survival potential.

SYNOPSIS OF THREE SCENARIOS

Status Quo Extended

--Worldwide spread of industrialism and increasing consumption of energy and other resources.

--Exportation of jobs by multi-national corporations.

--Shortages of key imported materials, such as crude oil and chromium.

--Rising prices and unemployment.

--Tightening economic conditions.

--Conflict of priorities: environment vs. jobs, job-oriented education vs. education for its own sake.

--Centralization and concentration of economic and political power.

--Innovative and minipulative social engineering.

--Application of "sopsych" technology.

--"Friendly Fasicism" to regulate an almost unstable economy and society.

Economic Disappointment

--Very high rates of both inflation and unemployment.

--Near collapse of economic system.

--Food riots in major cities.

--Decline in state aid.

--"Frills" cut from educational programs.

--Serious controversy in community over educational priorities.

--Education for job training.

--Increase in teacher and administrator unionism

Cultural Transformation

--Economic crash by 1977.

--Turning away from values of ever-increasing consumption.

--Doing more with less by "emphemeralizing" our knowledge and technology.

--Rise of science of consciousness.

--Ethic of "No man is an island" prevails.

--Decline in competitive status seeking as a way of enhancing self-image.

--New economic system of "just payment" and computer credit card system.

--Post-industrial values emerge strongly.

--Education becomes process oriented as opposed to goal oriented.

--Diversity of opinions and lifestyles increases, giving rise to a richer society with increased potential for survival.

REFERENCES

Fuller, R., Utopia or Oblivion (Bantam Books, New York, 1970).

Harman, W., "Alternative Futures and Educational Policy" (Stanford Research Institute, Menlo Park, California, 1970).

Kahn, H. and B. Bruce Briggs, Things To Come (MacMillan, New York, 1972).

Kahn, H. and A. Wiener, The Year 2000: A Framework for Speculation on the Next Thirty-Three Years (MacMillan, New York, 1967).

Leonard, G., Transformation (Delacorte, New York, 1972).

Leonard, G., Education and Ecstacy (Delacorte, New York, 1968).

Markley, O., "Changing Images of Man" (Stanford Research Institute, Menlo Park, California, 1973).

Maslow, A., Toward a Psychology of Being (Van Nostrand Reinhold, New York, 1962).

Roszak, T., Where the Wasteland Ends: Politics and Transcendence in Post-Industrial Society (Doubleday, New York, 1972).

Rossman, M., On Learning and Change (Random House, New York, 1972).

Vickers, G., Freedom in a Rocking Boat: Changing Values in an Unstable Society (Pelican Books, New York, 1972).

Yankelovich, G., The Changing Values on Campus (Washington Square Press, New York, 1972).

HOMEWORK DATA SHEET

School/Community Planning Team Futures Session One

Name ______________________________ Date ________________________
(only necessary if you want sheet
returned)

1.
a) How did you react to "The View From [illegible]"?

b) What elements of the scenarios seemed "right on"?

c) What did you find that seemed to be nonsense?

d) If you were to rewrite the three scenarios, what would you change?

2. Percent probability you give each future:	Status Quo Extended	Economic Disappointment	Cultural Transformation	Your Most Likely Future*
	________	________	________	________

* do this after completing No. 3 below.

3. Using the attached sheet, "Elements of the Scenarios," as a guide/worksheet, work up a list of similar elements that would approximately describe:

   a) The future that you see as being most likely; the future you see as needing to be considered as the context in which your SCIT's plans must work.

   b) The future you see as being most desirable, but still feasible; the future you see as worth working for.

NOTE: This is often more time consuming than it might first appear. Therefore, it might help to first decide how much time you can spend on this, and then to do as much as you can on both questions within that amount of time.

ELEMENTS OF YOUR VISION OF THE FUTURE

MOST LIKELY FUTURE

MOST DESIRABLE FUTURE

ELEMENTS OF THE SCENARIOS IN "The View From 1985"

STATUS QUO EXTENDED

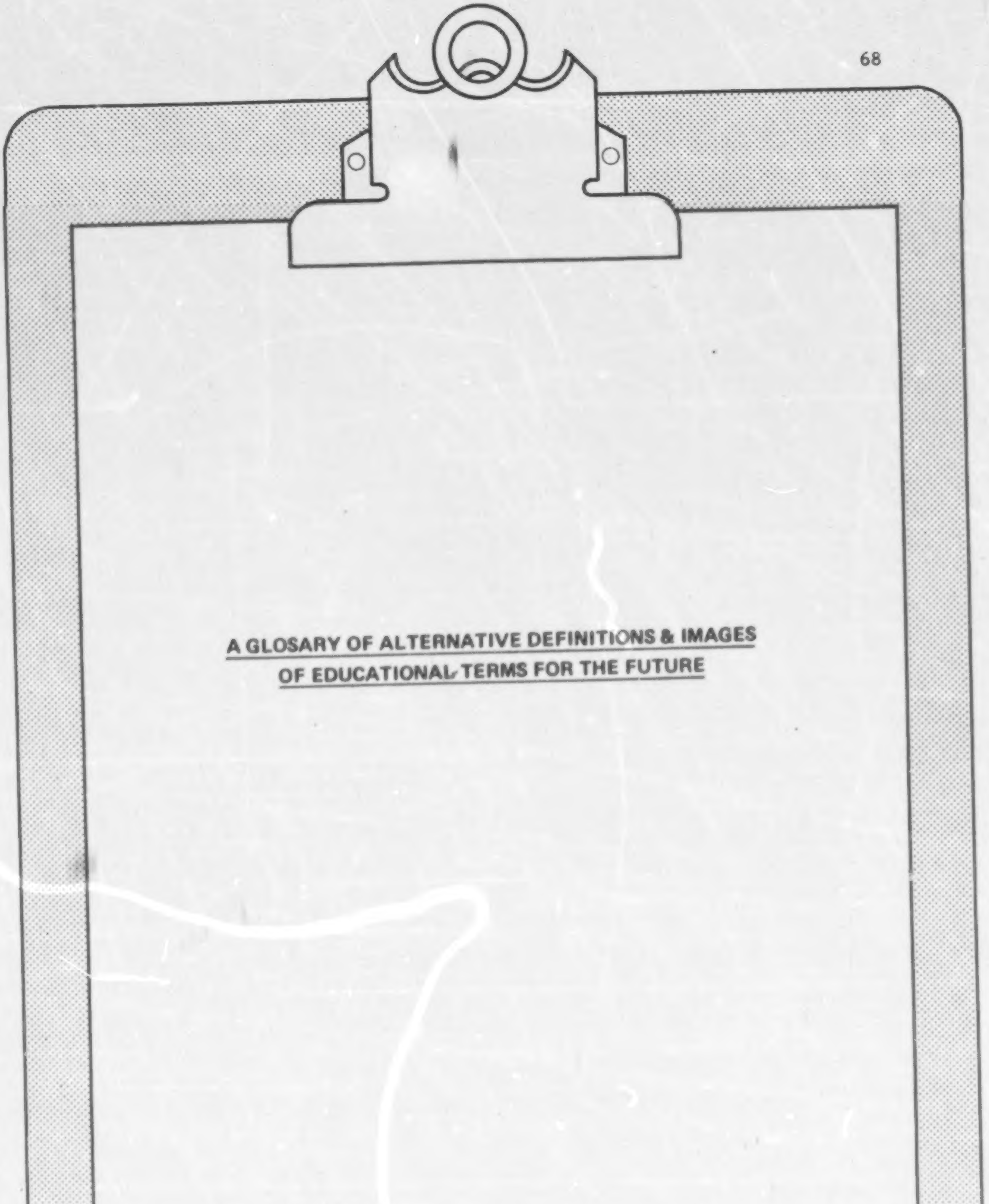
	Worldwide spread of industrialism and increasing consumption of energy and other resources
	Exportation of jobs by multi-national corporations
	Shortages of key imported materials, such as crude oil and chromium
	Rising prices and unemployment
	Tightening economic conditions
	Conflict of priorities: environment vs. jobs, job-oriented education vs. education for its own sake
	Centralization and concentration of economic and political power
	Innovative and manipulative social engineering
	Application of "sopsych" technology
	"Friendly Fascism" to regulate an almost unstable economy and society
	Increase of jobs related to "human services"
	Educational emphasis on "three R" basics

ECONOMIC DISAPPOINTMENT

	Very high rates of both inflation and unemployment
	Near collapse of economic system
	Food riots in major cities
	Decline in state aid
	"Frills" cut from educational programs
	Serious controversy in community over educational priorities
	Education for job training

CULTURAL TRANSFORMATION

	Economic crash by 1977
	Turning away from values of ever-increasing consumption
	Doing more with less by "ephemeralizing" our knowledge and technology
	Rise of the science of consciousness
	Ethic of "No man is an island" prevails
	Decline in competitive status seeking as a way of enhancing self-image
	New economic system of "just payment" and computer credit card system
	Post-industrial values emerge strongly
	Education becomes process oriented as opposed to goal oriented
	Diversity of opinions and lifestyles increases giving rise to a richer society with increased potential for survival



A GLOSARY OF ALTERNATIVE DEFINITIONS & IMAGES OF EDUCATIONAL TERMS FOR THE FUTURE

INTRODUCTION

Words determine how we see, how we describe the world around us and in turn things and feelings make our language. For instance, imagine that I, with a snap of my fingers, create something absolutely foreign to your experience. Your initial reaction to this "magic" will probably be emotional. Once your emotional response has subsided, you will feel the urge to name the object by asking, "What is it?" This will be a strong urge and out of it will come a name. The effect of naming is to make the unknown known. As time passes, the object will become familiar, easily talked about, a comfortable part of life.

Next let's imagine that the object has the ability to grow or change. As it gradually changes, we begin to feel slightly different about it. As this change in feeling occurs, our original word begins to take on new meaning or shades of meaning (connotations), without radically altering the original word. At first we often overlook these subtle changes until they reach such a point where they are far more important than the original idea. At this point, the meaning of the word changes and we see the object as fundamentally different from what it was when created and named. Essentially then we see the object as a new thing.

This process will continue to work smoothly so long as change is not too rapid. However, since today we live in an age of transition, an age of rapid change, we find that our words and language lag considerably behind what is. That is, words frequently do not keep up with reality. Because of this, it is of utmost importance we pay close attention to alternative definitions, or multiple definitions of words related to education. Therefore, these varied definitions of key educational terms found in the enclosed glossary should: (1) help one to broaden his view of basic changes occurring in the educational structure; and (2) supply those who use the futures materials with additional foundations and insights into the present structure of education. It should also be noted that the alternative and traditional definitions found in the glossary are not intended to be complete but are designed to "crack" the more traditional molds of seeing the educational world and give those of you considering change in education the opportunity to be more creative in dealing with a system in flux.

"Experience is the soul basis for education"--G. B. Shaw.

Some Helpful Exercises

List as rapidly as possible either on the chalk board or on a piece of paper all the words we normally associate with a human being in the process of growing up. Discuss with your fellow planning team members what changes have occurred in the words relative to the growth process.

Brainstorm all words related to education that you can think of without referring to the glossary. Then assign each of your words with a number one through five depending on how long the word, as far as you know (guess if you're not sure), has been in the lexicon of educational jargon. Assign one to the most recent words and a five to the oldest. Now, group your words according to age. In an open discussion, decide upon an example of a word from each group and give all the definitions you are able to those chosen. Observe closely what happens in your discussion.

THE GLOSSARY

Education:	To give knowledge or training to; to train or develop the knowledge, skill, mind or character of, especially by formal schooling or study. (Traditional--Webster's Second Edition) The open ended, open choice process of self-validation and discovery through a self-learning exploration established in a non-threatening environment. (See Curriculum) The unfolding of one's potential.
Educational Types:	1. Intervention-open learning (Montessori model) 2. Non-intervention-open learning (Summerhill model) 3. Intervention-training-schooling (U.S. public school) 4. Personal self-education (U.S. free schools model) 5. Societal-need-based education (China and U.S.S.R.)
FOCUS OF THE EDUCATIONAL INSTITUTION:	Student/learning centered (1,2,4) Student/training centered (3,5) Student/indoctrination centered (1,3,5) Student/self-socialization centered (1,2,4) Student/self-validation centered (2,4) Student/elevation of rational thinking centered (1,3,4) Student/holistic-mind-body centered (1,2,4) Student/self-consciousness-raising centered (1,2,4) Student/creative-exploration centered (1,2,4) Teacher/transmission of culture centered (1,3,5) Teacher/curriculum centered (1,3,5) Teacher/societal need centered (3,5)
TWO BASIC STRUCTURES OF EDUCATION:	Adult-requirement-need based: Material, information processes (methods plus criteria for success) and perceptions of what is to be learned are determined by someone other than the learner. Basic view of how people learn: Tabula Rasa. People are born with no knowledge and experience or teaching. "Writes" on the person what is to be learned. Educational attitude: "We must etch into the character of each individual the experience of the culture. We know best." (See Educational Types 1,3,5)

Self-generated-need based: Each individual, taking into account personal ways of learning, self-selected materials, information, methods of gaining knowledge and degree to which any pursuit is "mastered" essentially decides for himself what is of value to learn. Basic view of how people learn: various. People learn in different ways, but the majority are born with an innate desire to know. Therefore, it is society's duty to allow all persons the liberty to develop themselves to their fullest.

SCHOOLING: Training members of a society in the survival arts of their culture. Level of knowledge acquisition seldom moves beyond memorization for the majority of learners.

(Greek derivation) Leisure, that in which leisure is employed, discussion, philosophy, a place where spare time is employed, a school.

LEARNING: (Not to be confused with training) The acquisition of meaningful knowledge and skills.

It is important to note that recent research has found that different persons learn in different ways. Therefore, some people learn best with memorization of materials while others do not. Although our knowledge is rather limited, we do know that given any learning situation, the whole of a person's past is brought to bear in that situation. The learner's perceptions of the learning situation are determined at least in part by: (1) language, both kind and facility with; (2) the personal network of values; and (3) the subjective framework (biases, etc.) through which a person perceives a specific reality or item to be learned. It would be extremely helpful to read Robert Mogar's article, "Toward a Psychological Theory of Education," Spring, 1969, *Journal of Humanistic Psychology*.

EVALUATION: (Latin) To be strong, to be worth.

The critical judgment (most commonly expressed by grades) by a person in authority who determines to what degree and how much subject matter has been "mastered."

A statement of judgment on the performance of another (nongraded).

Any statement either verbal or written which raises the awareness of another so that the evaluatee gains insights into personal performance.

Any act by one to another which gives the other a sense of personal satisfaction.

Any non-judgmental form of feedback which lets a person know the relative merits of work performed.

TEACHER: One who shows how to do something; one who gives instructions to; a trainer (Traditional--Webster's Second Edition).

Guide: One who points out the way for; directs on a course; conducts; leads (Webster's Second Edition).

Explorational Guide: One who leads and who is led in a mutual search for facts, knowledge, wisdom.

Educator: One who leads another out; one who sets an environment so as to expend the knowledge of another.

Explorational Educator: One who takes another and through a process of mutual concern and caring enriches another's human growth.

Confluent Teacher: One who interacts with another on various levels (intellectual and emotional) who is non-judgmental in respect to what and how well something is learned; whose primary function is to challenge another in such ways as to stimulate intellectual and personal growth and to act as an intellectual model for the learner. Of necessity, this definition implies that the "teacher" be in personal contact with the needs of the learner and allows the learner to set the course based on the learning-need requirements at any given time. This type of "teacher" must have a wide background of experience and knowledge so as to be in touch with a wide variety of disciplines; to be expansive, creative and not limiting or narrowing as to scope of subject matter.

TRAINER: One who transmits skills from one person to another. For instance, one who trains others in the use of business machines, computers and other like skills (not to be confused with teacher).

FACILITIES: The school plant (traditional).

Any environment from a local business, the general community, the Sierra-Nevada mountains to one's home wherein the learner is engaged in extending his/her own knowledge. All environments other than the classroom.

A flexible combination of the above two examples.

CURRICULUM:	Materials, books, films, guest speakers so used and designed as to transmit predigested, preplanned information from the teacher to the student. All information that any learner wishes to understand. Any environment or source from where data, information, and concepts are taken, integrated, stored and/or used by the person engaged in the environment. Not preplanned. Purely explorational. Any condition or resource which in relationship to the person engaged in that condition or resource produces a learning effect...an extension of both the emotional and intellectual powers of the person; growth of knowledge; breadth of understanding. Explorational. Cross reference: see Focus of Educational Institution.
RESOURCES:	Books, paper, films, tapes, speakers; all materials containing information which can be brought into the classroom or used in a confined area (traditional). The living environment in which the learner is engaged both emotionally and intellectually other than the classroom. Related item: see Curriculum.
STUDENTS:	Generally younger people from age five to eighteen who are officially enrolled in a specific school. Any person who places him or herself under the guidance or tutelage of one who possesses "more knowledge" in a given field of study. To be eager about, to study (Webster's Second Edition).
LEARNER:	Any person from birth to death engaged in extending his knowledge of himself and his environment. Anyone searching for an understanding of his relationship to planet Earth.
FAILURE:	One who does not complete or learn what is expected of him or her as judged by another. The inability to reach one's goal. In human development, this concept does not apply. Within the context of mutual agreement between teacher and student, the inability of the student to reach pre-established criteria.

FUTURE ISSUES FACING EDUCATION

The list of educational issues that follows was generated by the Task Force and confirmed by a small group of educational futurists. The exercise which follows the list is a device to help discussants focus on problems they wish to tackle.

LIST OF FUTURE ISSUES FACING EDUCATION

I. Highly Probable/Almost Certain

--declining enrollment: unused facilities and staff layoffs, unless structure/function of public education is reorganized and expanded.

--increasing unionism: possibly extending through administrators and university professors, with public school collective bargaining effectively being done at the state level.

--emphasis on software (programming, conceptual aspects) rather than hardware (equipment) in educational technology.

--broadened credit/certification of students (GED/high school equivalence test, credit for outside experience, etc.).

II. Reasonably Probable

--changing credentialing/certification of professionals (multi-disciplinary community consortia for credentialing of non-educator experts; requirement of renewal of credentials; question of credentialling for publicly supported "non-traditional" education).

--recurring education (on again-off again full and part-time study, K through D(eath)).

--emphasis on "out of school" experiences as an essential part of education; the school being a broker, expediter and overseer to facilitate this process.

--conflict regarding "stimulus control" (control by others) versus "conflict control" (control by self) in potent new socio and psycho-technologies as used in public schools.

III. Conceivable

--year-around schooling to save money and make education more effective.

--reversal of seniority aspect of tenure laws as applied to layoffs (due to lawsuits based on equal opportunity considerations); quality/effectiveness being used instead.

--educational voucher system, allowing students/parents to choose public or private schools or other way of accomplishing education.

Futures Issues Exercise

This exercise that follows is designed to help individuals and groups focus on their opinions and concerns. After the basic material has been reviewed, the exercise is distributed with these instructions:

Column I: Will Impact

"Check boxes in Column I which you believe will surely impact on education in the foreseeable future. If you do not see an item included which you believe is bound to occur, please add it in the space provided."

Column II: High Impact - Will Create Difficulties

"Now check those boxes in Column II which you think will cause trouble for school systems (or this district)."

Column III: Want to Work On

"Check those items in Column III in which you are personally interested and would agree to spend you time."

The papers are collected and summarized for the group, noting the number of checks in each box and additions listed under "Other."

LIST OF FUTURE ISSUES FACING EDUCATION

Name: ______________________

Will Impact 1	High Impact/ Difficult 2	Want to Work 3	
			I. Highly Probable/Almost Certain
☐	☐	☐	--declining enrollment: unused facilities and staff layoffs, unless structure/ function of public education is reorganized and expanded.
☐	☐	☐	--financial squeeze, non-passage of bond issues and tax overrides, rising costs but declining income.
☐	☐	☐	--increasing unionism: possibly extended through administrators and university professors, with public school collective bargaining virtually accomplished on a statewide basis.
☐	☐	☐	--emphasis on software (programming, conceptual aspects) rather than hardware (equipment) in educational technology.
☐	☐	☐	--broadened credit/certification of students (GED/high school equivalence test, credit for outside experience).
☐	☐	☐	--other.
			II. Reasonably Probable
☐	☐	☐	--changing credentialing/certification of professionals (multi-disciplinary community consortia for credentialing of non-educator experts; requirement of renewal of credentials; question of credentialing for publicly supported "non-traditional" education).
☐	☐	☐	--recurring education (on again-off again full and part-time study, K through D(eath)).
☐	☐	☐	--emphasis on "out of school" experiences as an essential part of education; the school being a broker, expediter and overseer to facilitate this process.
☐	☐	☐	--conflict regarding "stimulus control" (control by others) versus "respondent control" (control by self) in potent new socio and psycho-technologies as used in public schools.
☐	☐	☐	--other.
			III. Conceivable
☐	☐	☐	--year-around schooling to save money and make education more effective.
☐	☐	☐	--reversal of seniority aspect of tenure laws as applied to layoffs (due to lawsuits based on equal opportunity considerations); quality/effectiveness being used instead.
☐	☐	☐	--educational voucher system, allowing students/parents to choose public or private schools or other way of accomplishing education.
☐	☐	☐	--other.

FACT & TRENDS WITH RELEVANCE FOR EDUCATIONAL PLANNING

The possible facts and trends which should intrude into consideration of educational futures is limitless. Nevertheless, the Task Force has chosen an array of topics which might be given consideration, as well as sources of still more material.

Our hope is that the educational planner will try to see those factors, beyond the edge of the school district, which are influencing the community, state, nation, and world.

No answers have been given to the questions posed at the end of each section.

1. INTRODUCTION

This section contains selected facts and trends about the world, the nation, and the locality we live in. Although Project Redesign is a local planning effort, the Task Force felt it important to include planetary and national trends as well as just local ones. If we are to plan wisely, we need to understand as much as we can about the whole context of the future--both wide and narrow, near and far.

With each set of trends and/or facts we have extracted at least one issue and have asked questions that are relevant for educational planning. We hope that these issues and questions will be useful springboards for discussion and will help you identify those issues that should most influence the design of our schools in the future.

Also, it should be emphasized that the materials in this section are deliberately selective and open ended. If it seems useful to you, they can and should be added to. The last part of this section is designed to accommodate such additions, which may include both trends that you see as being particularly relevant to education in the future (even though you lack statistical evidence of their factual basis) and trends that are published elsewhere that you want to focus attention on.

Four books are particularly worth noting for those who want to dig deeper:

Erlich, P.R., *Population, Resources, Environment--Issues in Human Environment* (W.H. Freeman, San Francisco, 1970)

McHale, J., *World Facts and Trends* (Collier, New York, 1972)

Office of Management and Budget, *Social Indicators, 1973* (U.S. Government Printing Office, 1973)

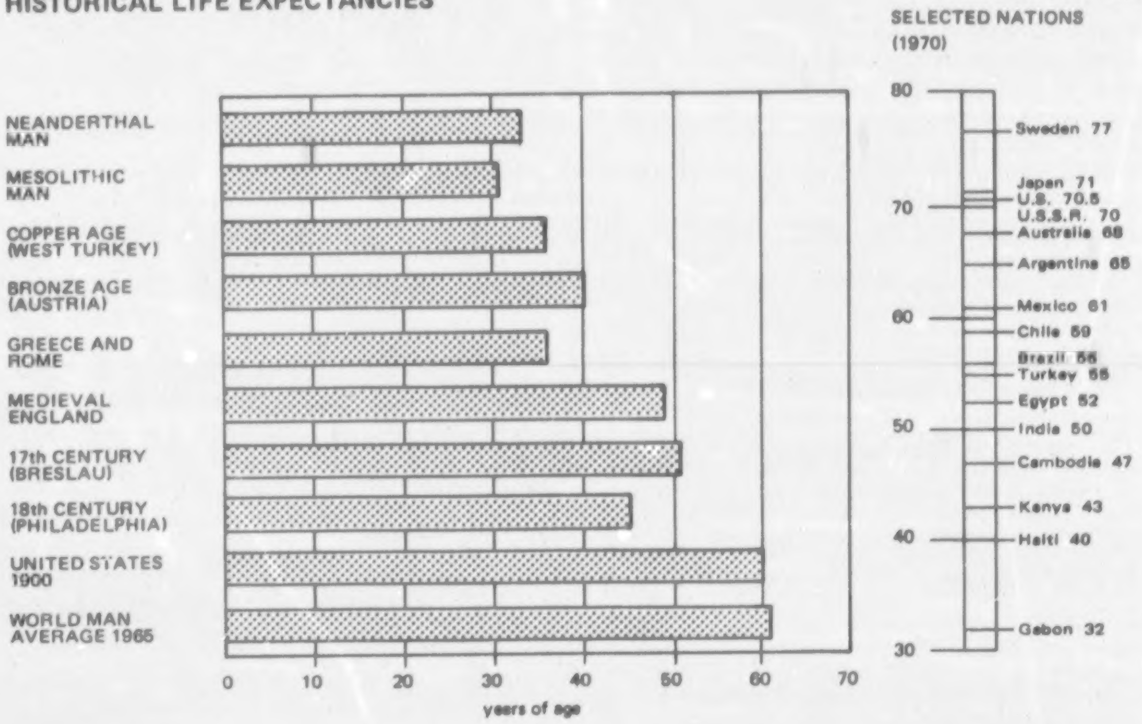
Williams, C., et al., *Anticipating Educational Issues Over the Next Two Decades: An Overview Report of Trends Analysis* (Stanford Research Institute, Menlo Park, California, 1973)

II. SOME PLANETARY FACTS AND TRENDS

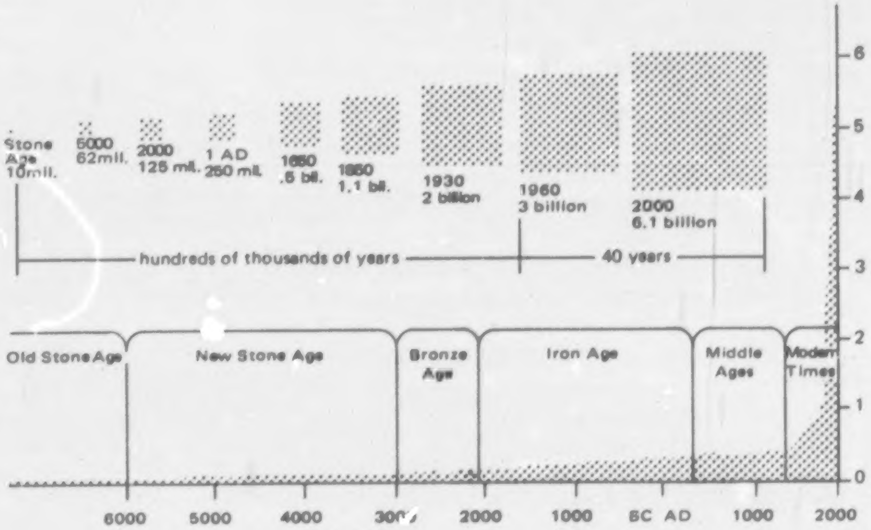
A. HISTORICAL CHANGES IN MAN'S LIFE EXPERIENCE

1. Historical Life Expectancies
2. Changes in Human Population
3. Labor Force Shift in Typical Advanced Economy
4. Number of Years Spent in Life Activities
5. The Speed of Change
6. Issues and Questions

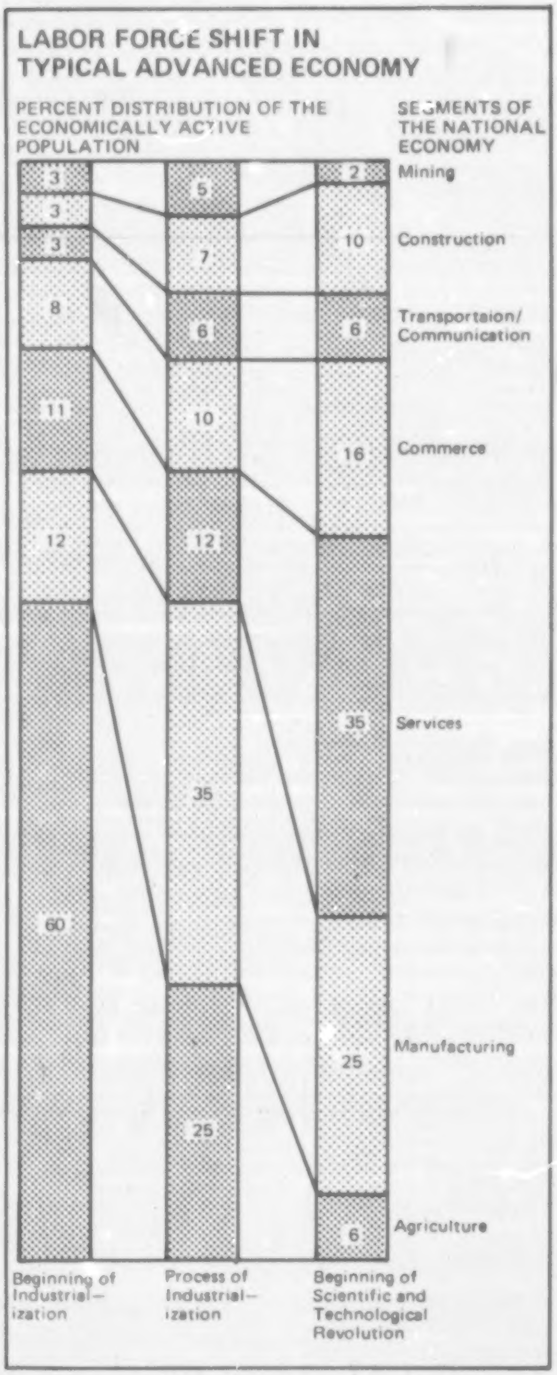
HISTORICAL LIFE EXPECTANCIES



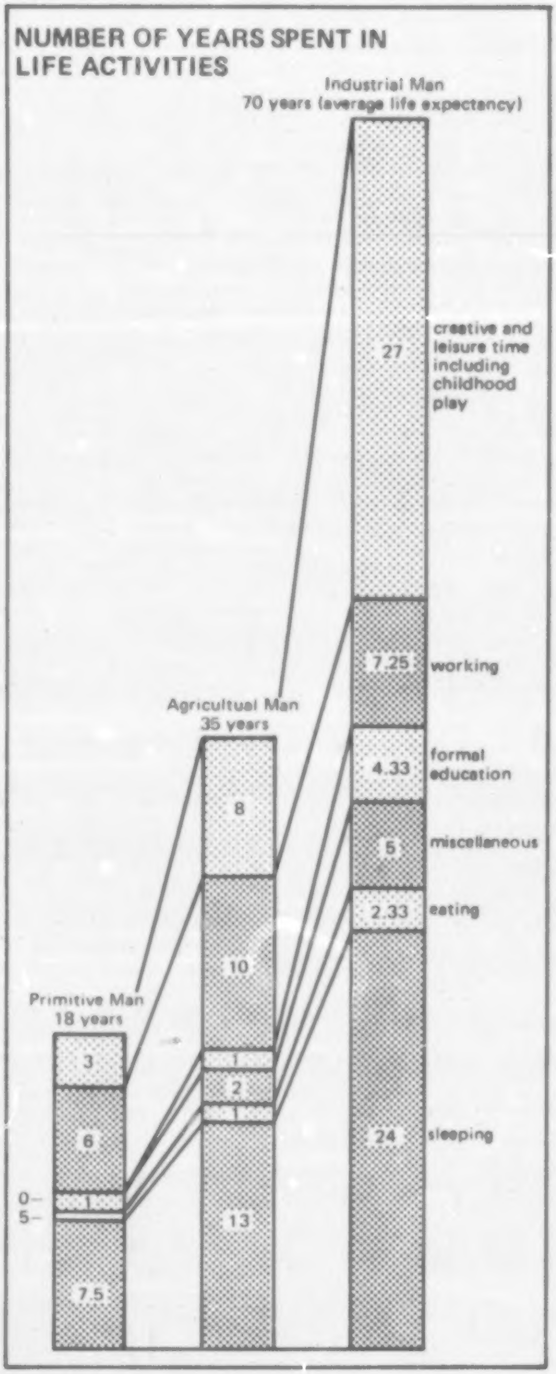
CHANGES IN HUMAN POPULATION



Source: 'Social Indicators' Government Printing Office, 1973.



LABOR FORCE SHIFT IN TYPICAL ADVANCED ECONOMY



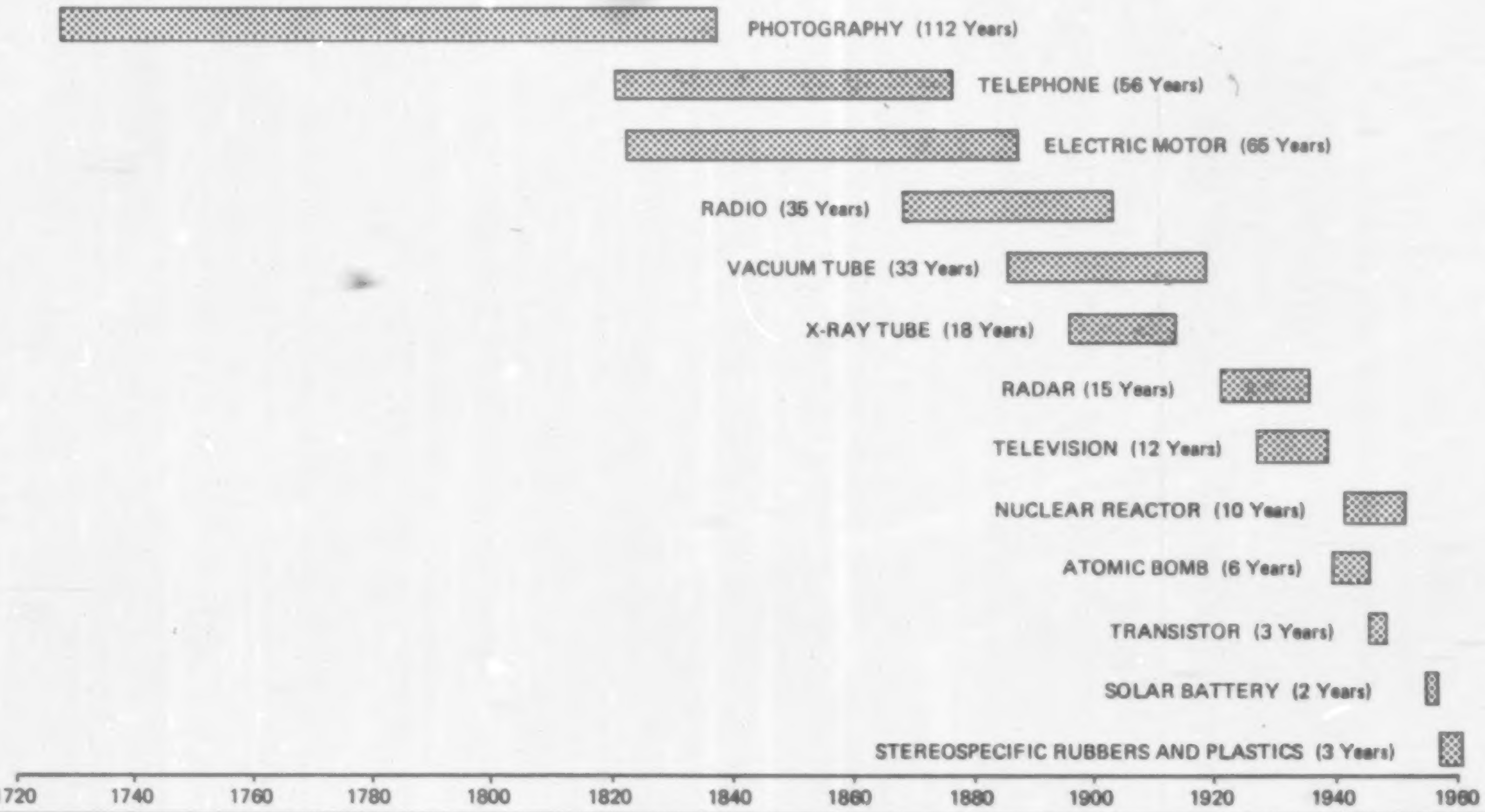
NUMBER OF YEARS SPENT IN LIFE ACTIVITIES

Source: 'Social Indicators' Government Printing Office, 1973.

John McHale. "World Facts and Trends"; Collier Books, New York, New York; Collier MacMillan Limited; London 1972.

THE SPEED OF CHANGE

Interval between discovery and application in physical science



A. HISTORICAL CHANGES IN MAN'S LIFE EXPERIENCE

6. Issues and Questions

Issue: In most higher animal species, the average life span is approximately seven times the number of years to maturity. Thus, animals that take two years to maturity live to be about 14, and so on. According to this general observation, the human being should naturally live to about 140-150 years of age.

Questions: What if science discovered a way to increase life by 20 years? By 70 years?

Issue: In our "developed" society, population growth is slowing, and at the same time, there is less demand for agricultural and manufacturing workers. More time is available for leisure pursuits and many persons will spend more time in retirement.

Questions: How should we educate our children so that they can use their leisure time most constructively? What does the "greying of America" imply for educational planning?

Issue: The accelerating speed of change has brought the phrase "future shock" into common parlance. Although we don't know exactly what the future will be like, we are conflident that it will be different in many ways.

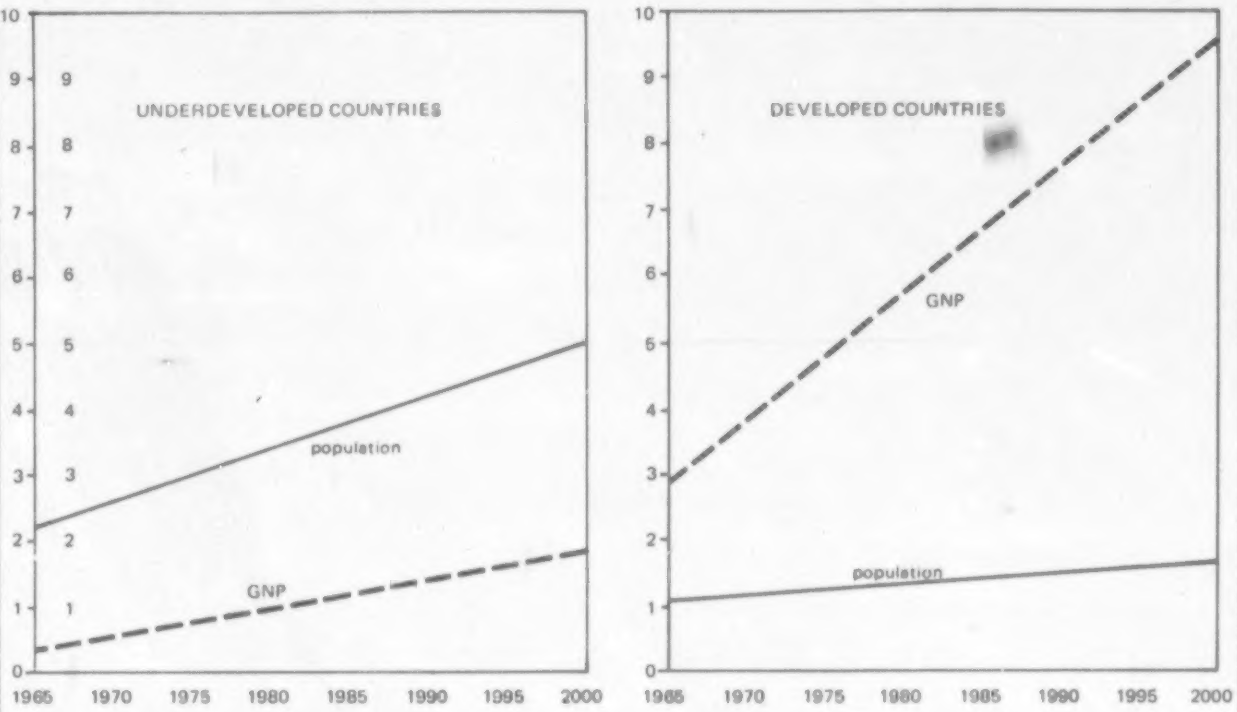
Questions: How does society adjust to change--by trying to direct it? By increased efforts to preserve stability? By trying to anticipate it? What kind of education prepares young people for a life of constant change?

B. COMPARISONS BETWEEN RICH AND POOR NATIONS

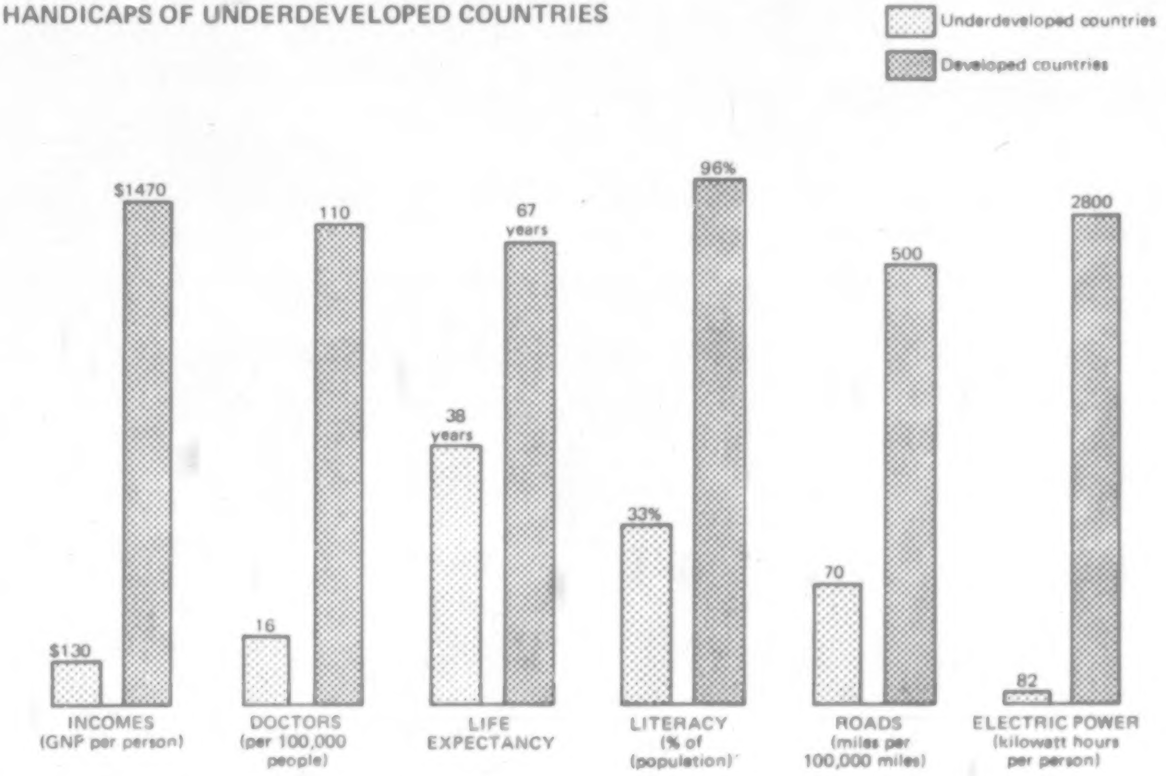
1. World Population and Wealth
2. Handicaps of Underdeveloped Countries
3. Protein and Caloric Intake
4. The Education Gap
5. Teachers as a Percent of Population
6. Life Times of World Metal Reserves
7. Depletion of World Reserves of Commercial Grade Ores if World Population Had U.S. Living Standard
8. World Energy Consumption and Population
9. Energy Consumption and Living Standards
10. Issues and Questions

WORLD POPULATION AND WEALTH

(in billions of people / trillions of U.S. dollars)

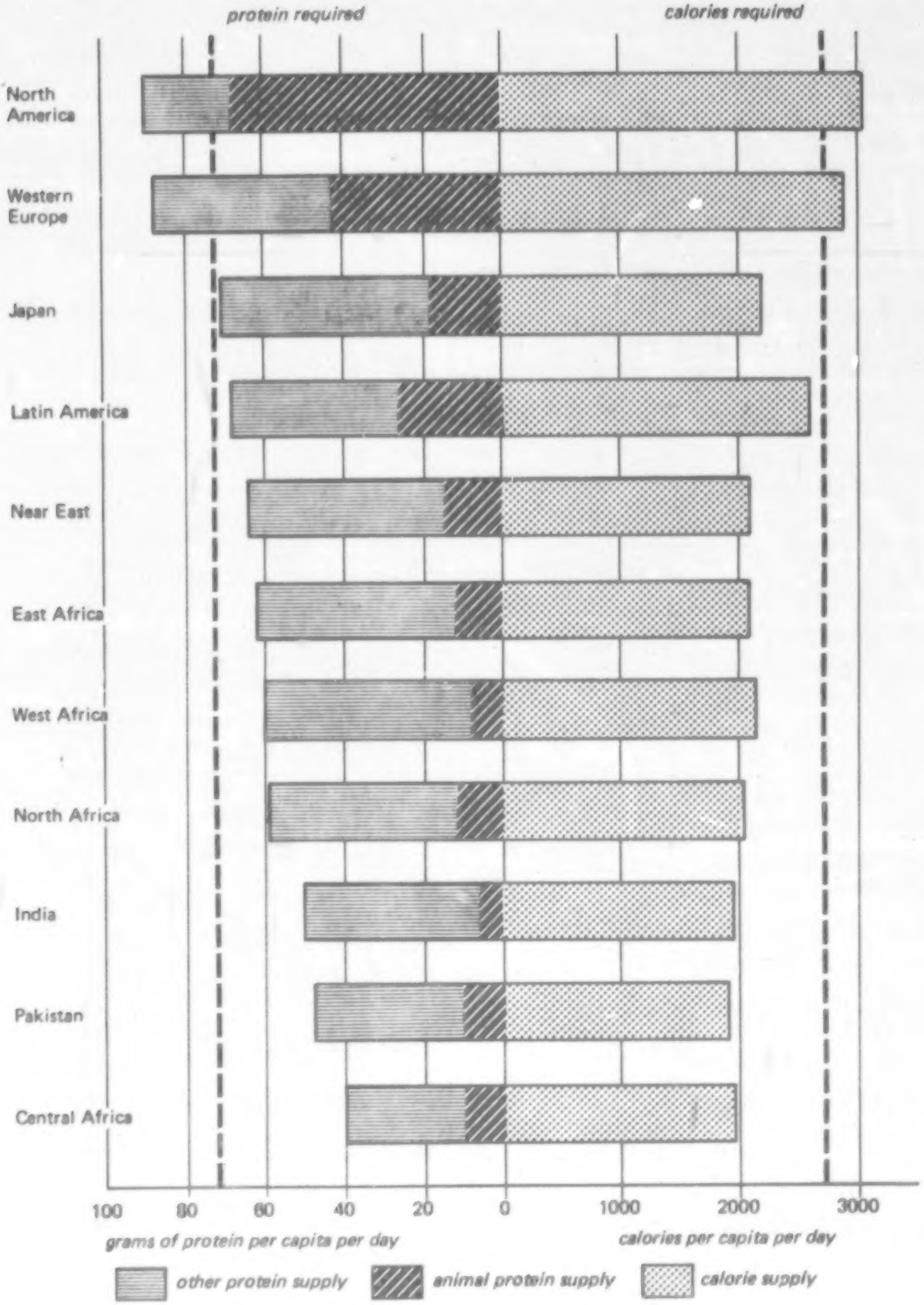


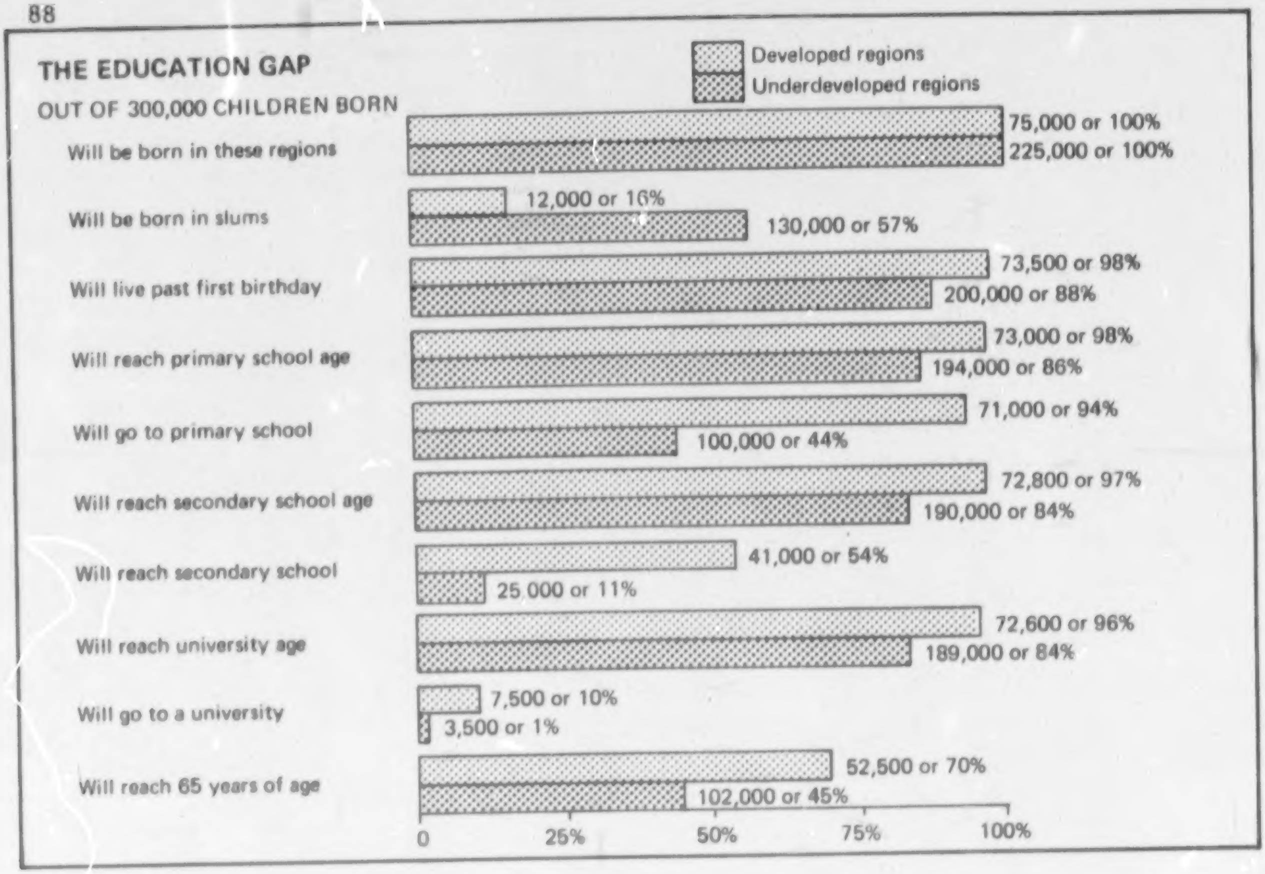
HANDICAPS OF UNDERDEVELOPED COUNTRIES

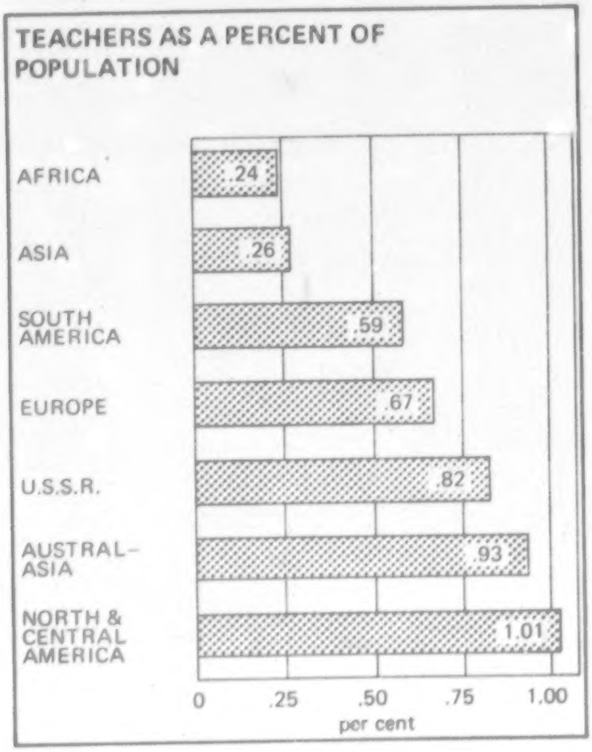


Source: 'Social Indicators' Government Printing Office, 1973.

PROTEIN AND CALORIC INTAKE

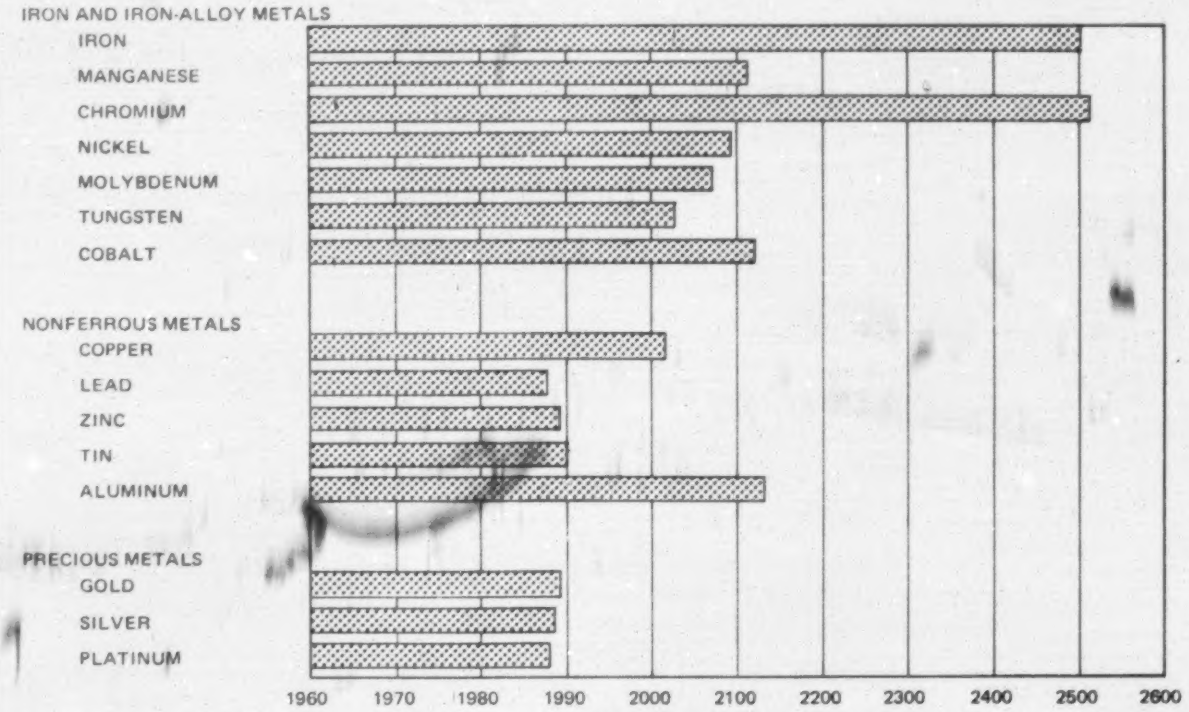



THE EDUCATION GAP

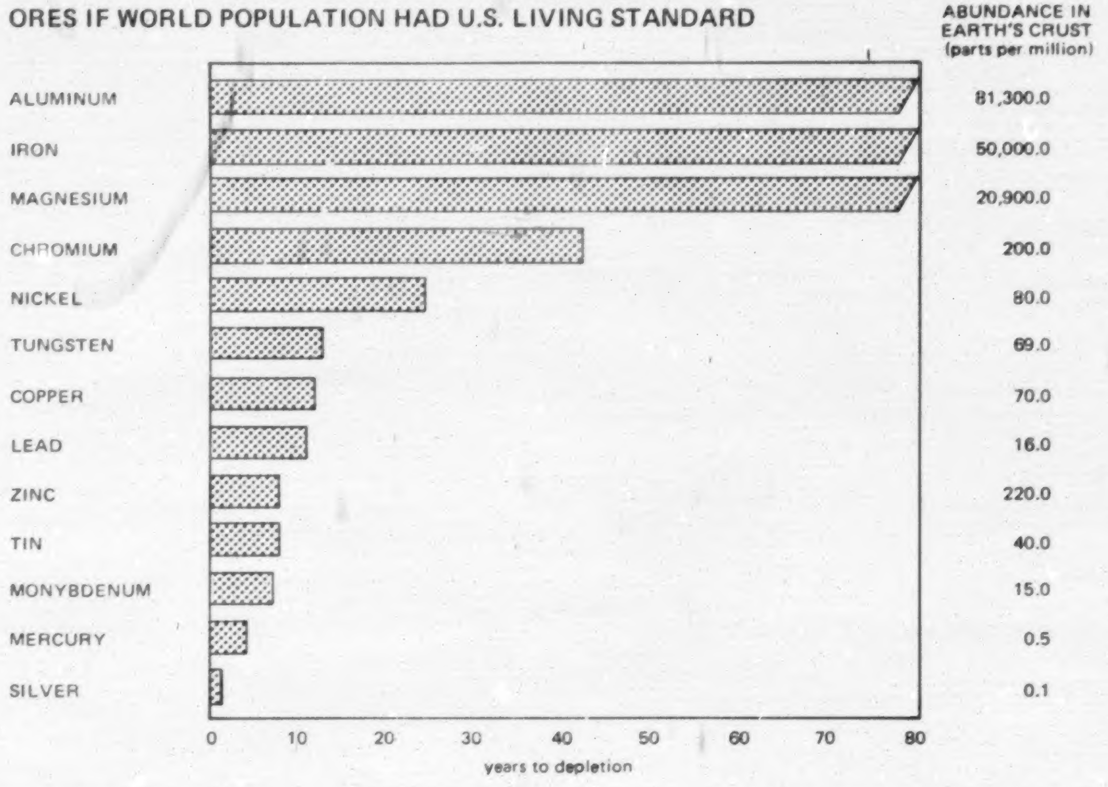

TEACHERS AS A PERCENT OF POPULATION

Source: 'Social Indicators' Government Printing Office, 1973.

LIFE TIMES OF WORLD METAL RESERVES



DEPLETION OF WORLD RESERVES OF COMMERCIAL GRADE ORES IF WORLD POPULATION HAD U.S. LIVING STANDARD



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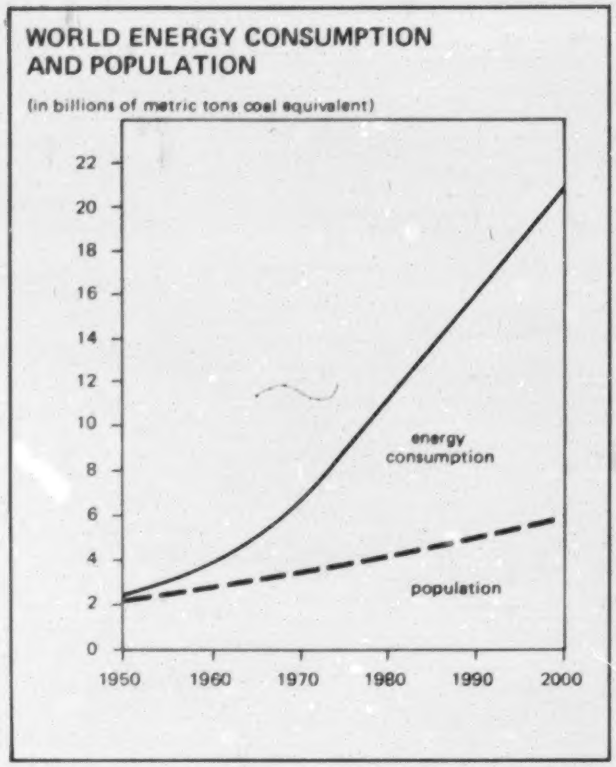
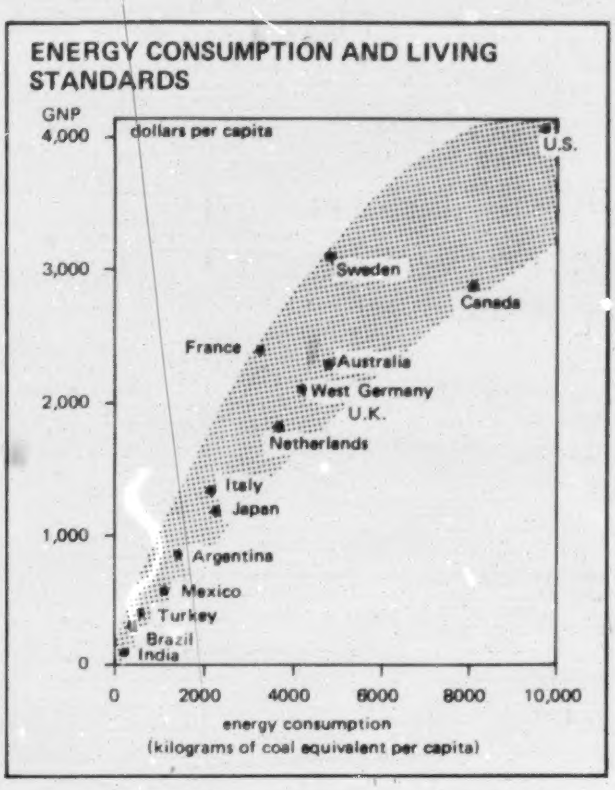


WORLD ENERGY CONSUMPTION AND POPULATION



ENERGY CONSUMPTION AND LIVING STANDARDS

Western Europe

With · 10% of the world population

· 7% of the world's arable land

has or produces (%of the world):

23%	gross national product
26%	manufacturing capacity
16%	agriculture products
22%	electricity
22%	coal
28%	steel

U.S.

With 6% of the world population

has or produces (% of the world):

25%	steel
60%	automobiles
40%	trucks
33%	surfaced roads
33%	electricity
25%	railroad freight
50%	civil aviation mileage

and accounts for about 50% of annually world resource consumption.

Source: 'Social Indicators' Government Printing Office, 1973.

B. COMPARISONS BETWEEN RICH AND POOR NATIONS

10. Issues and Questions

Issue:	The poorer nations of the world face staggering obstacles to the achievement of a decent standard of living. Low levels of nutrition and schooling are two of the most significant.
Questions:	Should our schools present these planetary problems in ways that the students can grasp? At what age should such problems be taught? Should the school take any value positions regarding possible U.S. roles in planetary problems?
Issue:	With 6% of the world's population, the U.S. consumes about 50% of the world's annual resource output, and it is this standard of living that provides the growth goal for many poorer nations. But evidently the entire world's population cannot attain our level of consumption--the resources and the ecology of the planet could not stand such an impact.
Questions:	What does this imply for U.S. consumption patterns in the future? What role should the schools take in changing values regarding our standard of living and our "quality of life"? Should the schools take a value position on these issues?
Issue:	Ivan Illich has argued that the western style schooling is the primary thing that is wrong with the developed world, and increasingly the "developing" world as well. He argues that we are "educated" to be consumers of pre-packaged reality being sold for profit; that "advertising" (which includes schooling) is geared toward ever-increasing consumption of whatever the industries of the society turn out, and that industrialized society thus deprives the individual of any basic choices as to lifestyle, what to learn, how to learn it.
Questions:	Do you see any merit in Illich's argument? Given the enormous "education gap" between rich and poor nations, should U.S. public schools inculcate their students with the value of educating the world U.S. style? Or should the U.S. continue to keep education nationalized, so as to have a better competitive position in the world markets--thereby continuing the "have-have not" gap? Would, as Illich seems to imply, the exportation of American style education wreck the chances of developed nations ever to achieve a decent "quality of life" as long as the industrial era continues?
Issue:	In an era of increasing need for international cooperation on a planetary basis, the difference between the priorities of rich and poor nations is a difficult barrier to agreement.

Questions: What sort of schooling or education would be most appropriate for the creation of a viable planetary society? Should the schools try to educate students toward this end? How can students best become acquainted with differences between our own and other cultures?

C. COMPARISONS IN MORAL DEVELOPMENT--STAGES OF MORAL DEVELOPMENT

Issue: Kohlberg claims that if we try to teach our children to behave using a different moral orientation than they "are at," we will lose the ball game. If Kohlbert's findings are valid, the same might be said in the area of international relations.

Questions: Do these findings make sense to you? Do you believe them? Where in Kohlberg's stages do you think children in junior and senior high are?

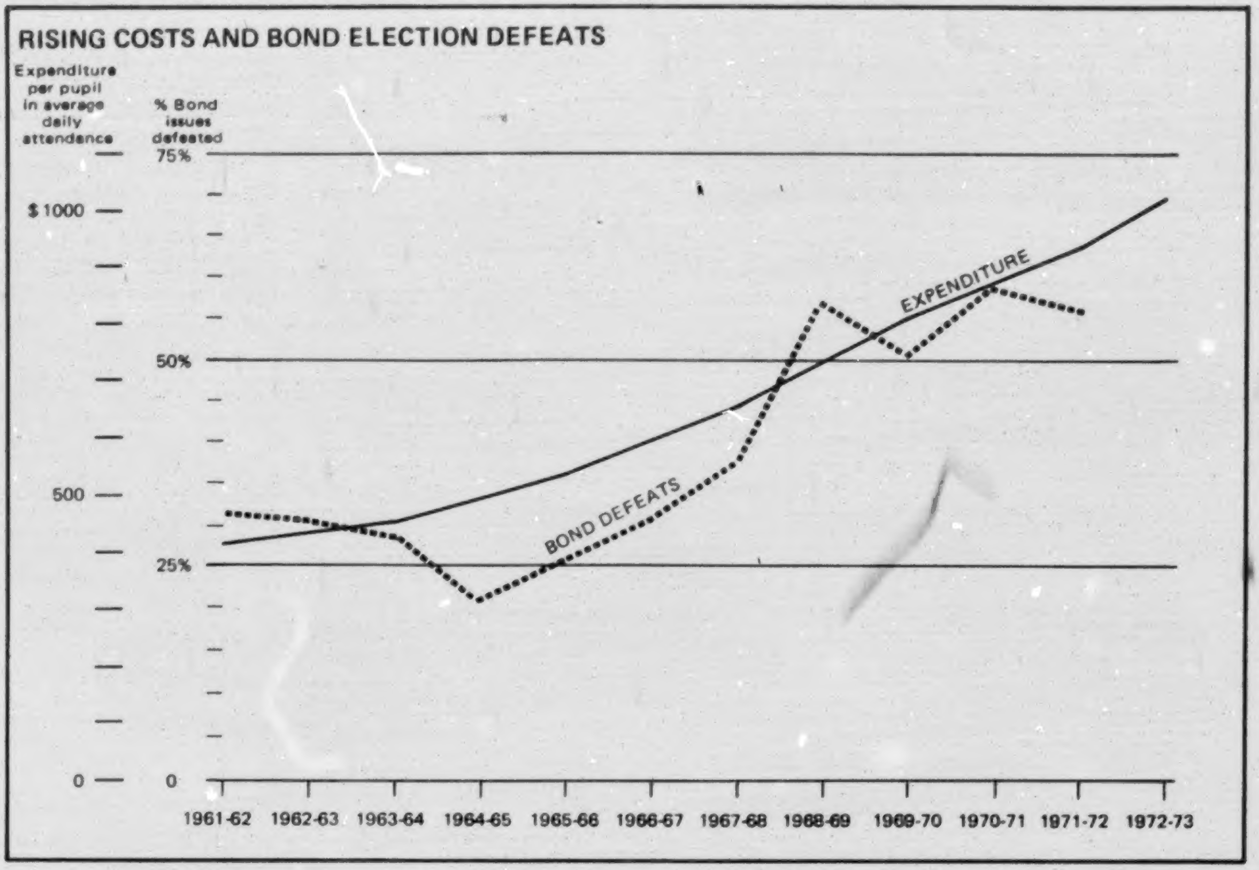
Where do you think you are?

Should the public schools take Kohlberg's findings seriously? If so, how?

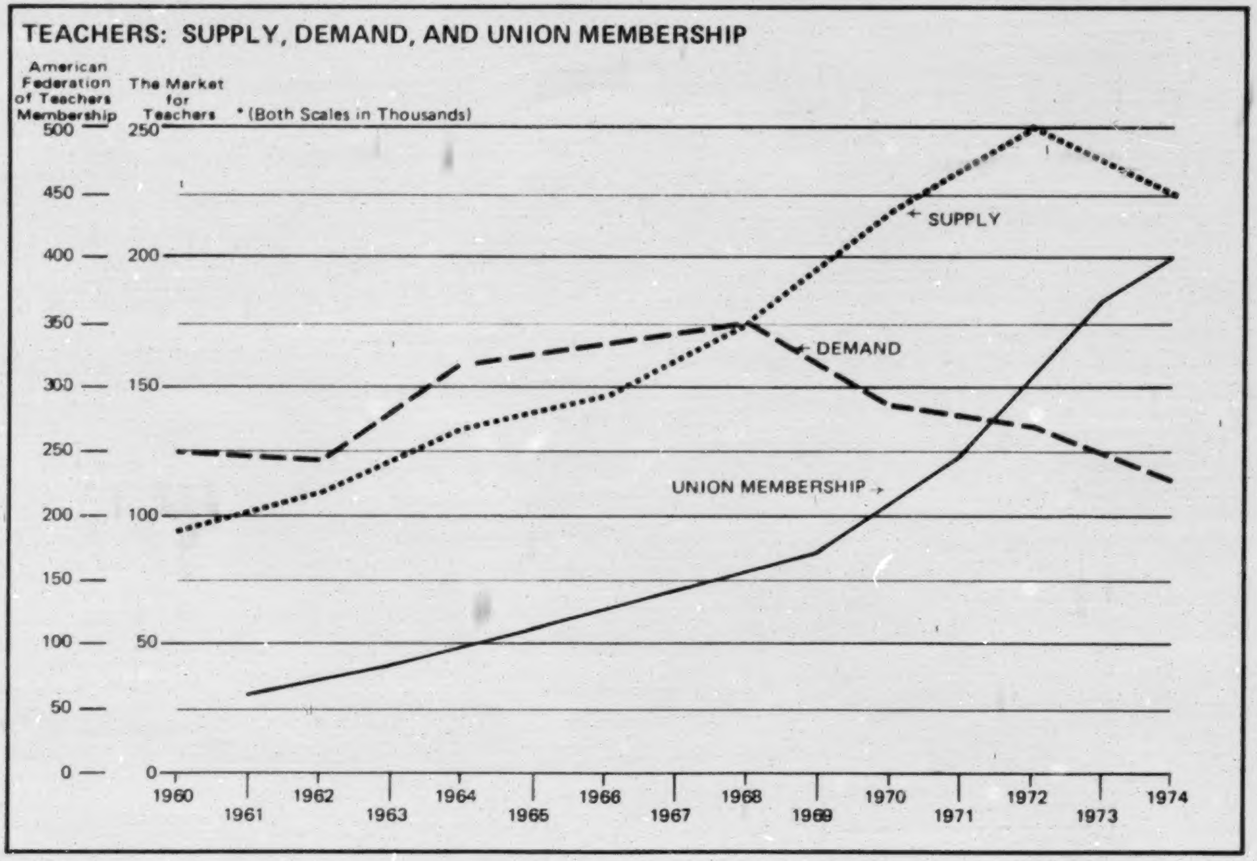
III. SOME NATIONAL FACTS AND TRENDS

A. EDUCATIONAL SUPPLIES AND DEMANDS

1. Rising Costs and Bond Election Defeats
2. Teachers: Supply, Demand, and Union Membership
3. Different Modes of Adult Education: Estimated Growth 1940-1976
4. Adult Education Activity--1961 and 1972
5. Issues and Questions

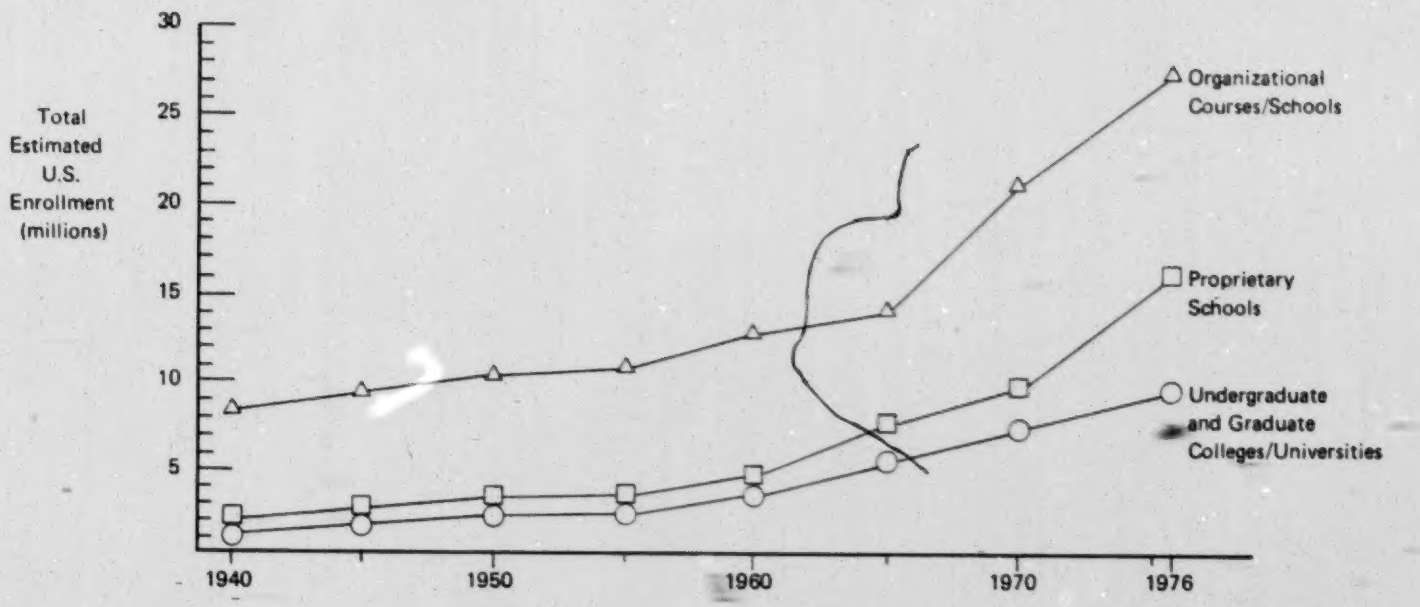


RISING COSTS AND BOND ELECTION DEFEATS



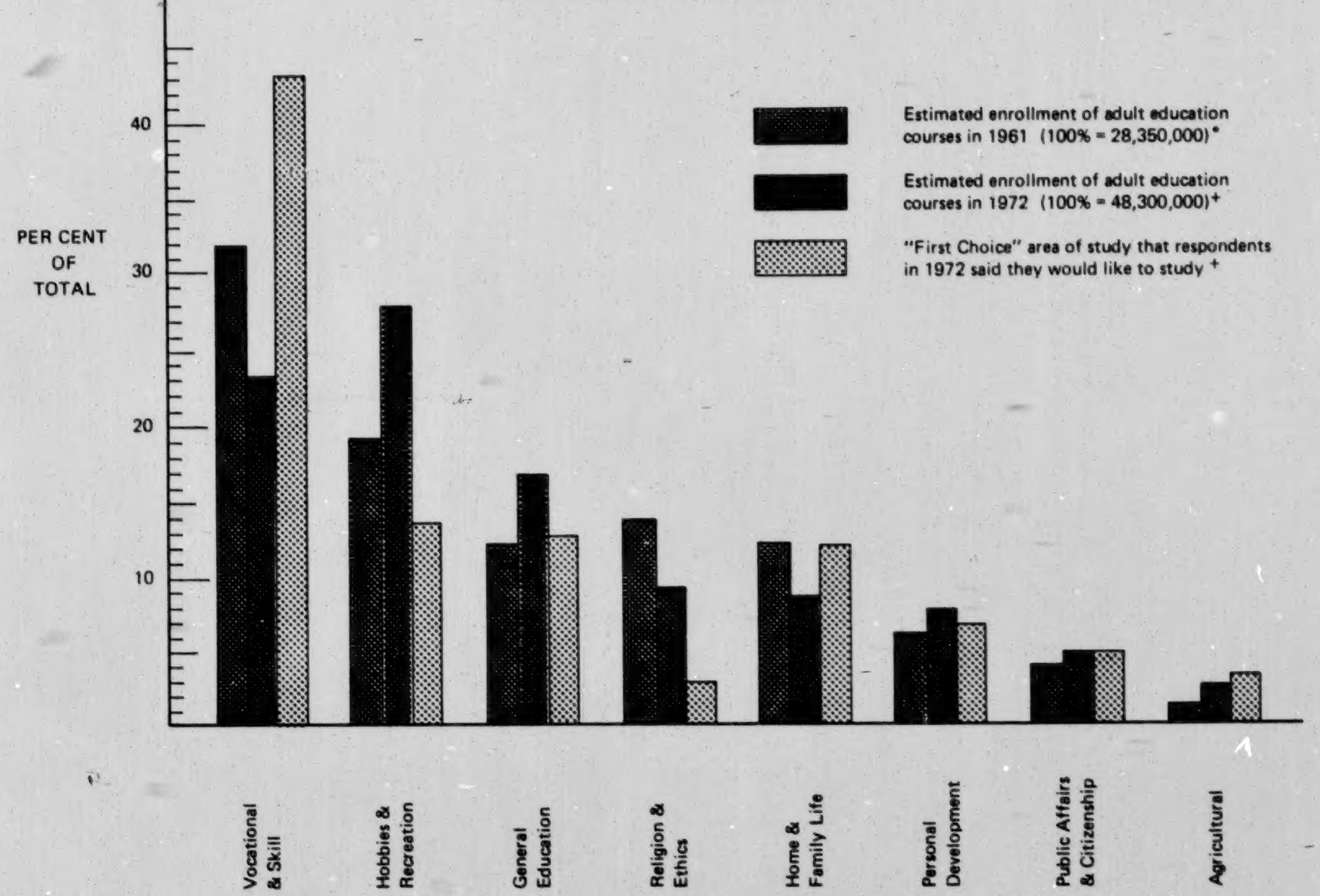
TEACHERS: SUPPLY, DEMAND, AND UNION MEMBERSHIP

DIFFERENT MODES OF ADULT EDUCATION: ESTIMATED GROWTH 1940-1976



Source: Stanley Moses, "The Learning Force," Syracuse Educational Policy Research Center

ADULT EDUCATION ACTIVITY — 1961 and 1972



Sources: * John Johnstone, "Volunteers for Learning," National Opinion Research Center, February, 1963.
+ Samuel B. Gould (Chairman), Diversity by Design, Jossey-Bass, 1973
(bases on a sponsored survey conducted by the Response Analysis Corp).

A. EDUCATIONAL SUPPLIES AND DEMANDS

5. Issues and Questions

Issue: Most experts expect that the cost of public schooling will continue to escalate, even if teacher salaries are not increased beyond increases in cost of living.

Questions: Is it realistic to make innovative plans for the schools if those plans would require additional expenditures?

Issue: The present oversupply of qualified teachers and increasing rate of teacher unionism at a time when overall school enrollments are declining is thought by some to be a potentially explosive situation--especially given the future likelihood that the seniority may be overturned as the criterion for teacher layoffs. (Minority teachers who have only recently been hired as part of "affirmative action" programs being discriminated against by "last in-first out" policies.)

Questions: What, if any, future-oriented educational plans would turn the oversupply of teachers and teacher unionism from a problem into an opportunity.

Issue: Although public elementary and secondary enrollments will decline in the years ahead, adult enrollments will increase. One of the basic choices facing educational planners regards the types of institutions best suited to provide adult education.

Questions: Should the Palo Alto Unified School District expand its adult education program? If so, in what areas? Or, would it let the community colleges and other institutions meet this demand?

Issue: With the recent increases in leisure time has come increased demand for leisure type adult education pursuits.

Questions: Should public funds be used for teaching hobbies to adults, given the increasingly tight financial squeeze on the schools generally?

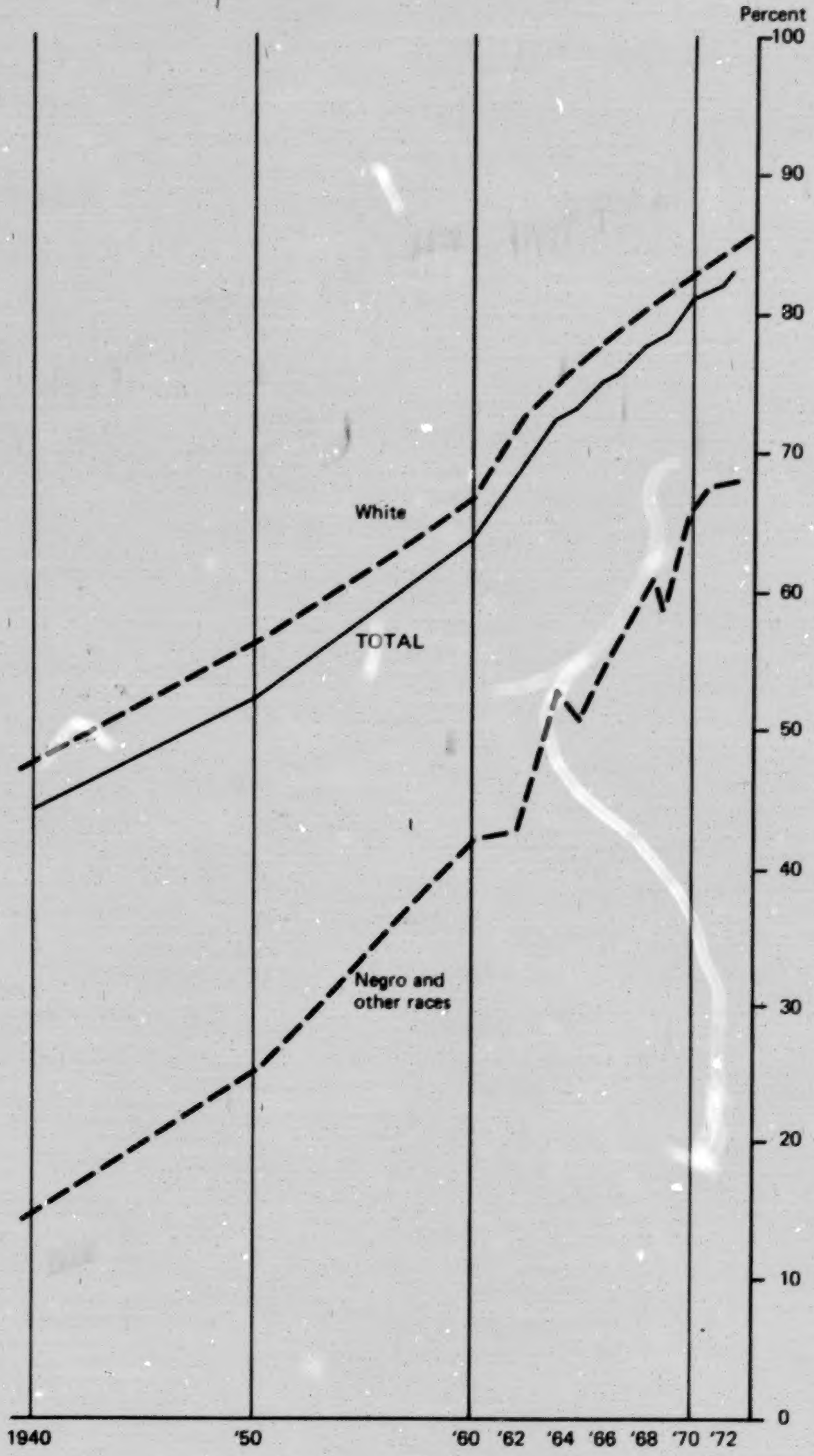
B. RACIAL DISPARITIES

1. The High School Educated Population: 1940-1972, Age and Race
2. Median Family Income by Education, Age and Race of Family Head: Four Year Average, 1968-1971
3. Issues and Questions

THE HIGH SCHOOL EDUCATED POPULATION: 1940-1972

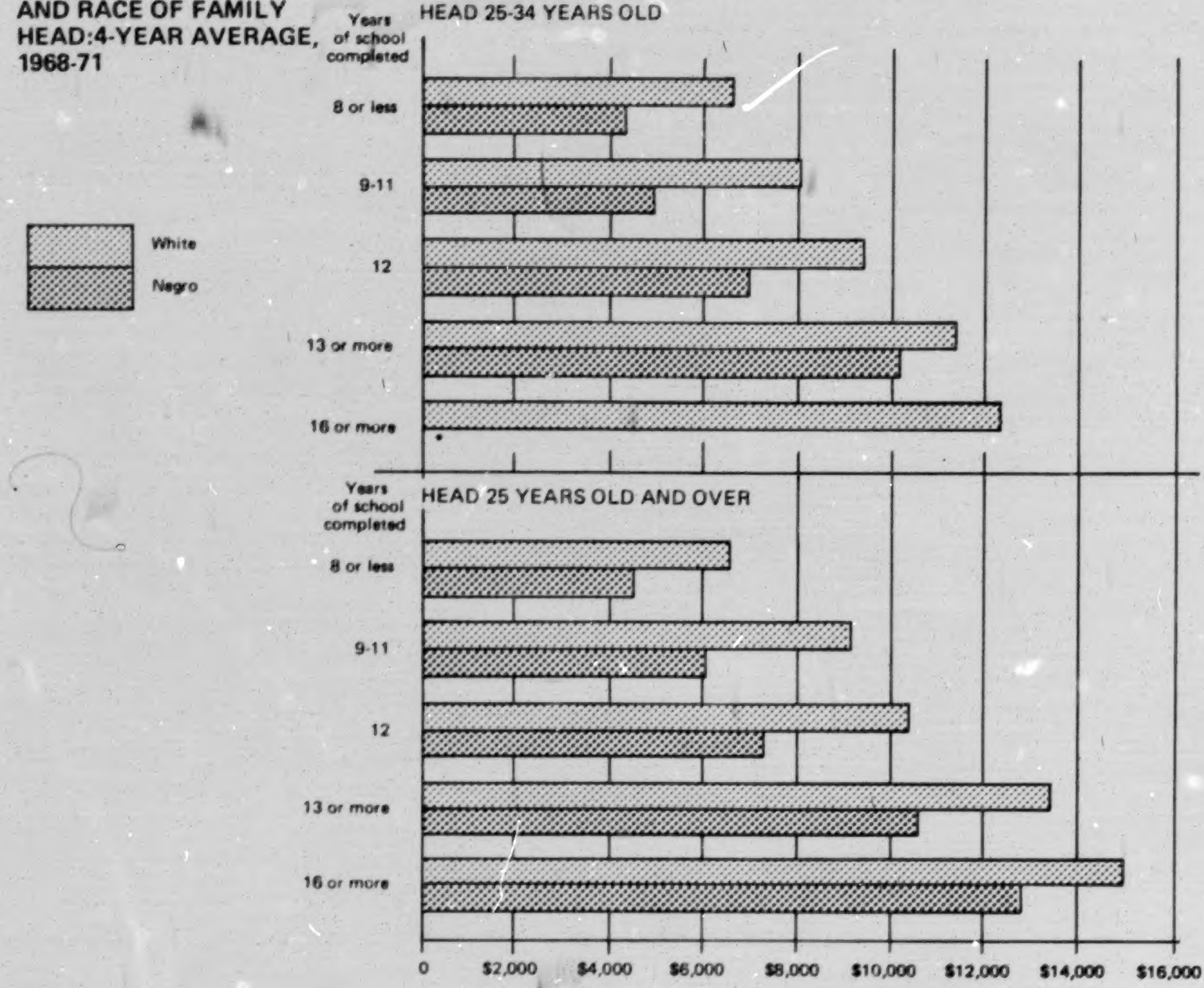
Age and Race

20 to 24 Years Old

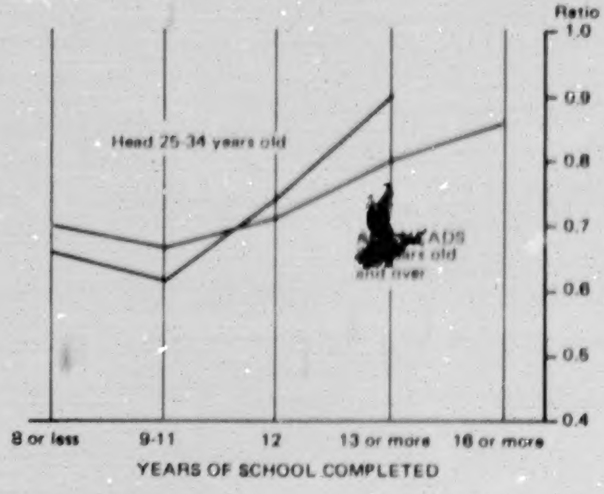


Source: 'Social Indicators' Government Printing Office, 1973.

MEDIAN FAMILY INCOME BY EDUCATION, AGE AND RACE OF FAMILY HEAD:4-YEAR AVERAGE, 1968-71



Ratio of Negro median family income to white median family income



* Not available

Source: 'Social Indicators' Government Printing Office, 1973.

B. RACIAL DISPARITIES

3. Issues and Questions

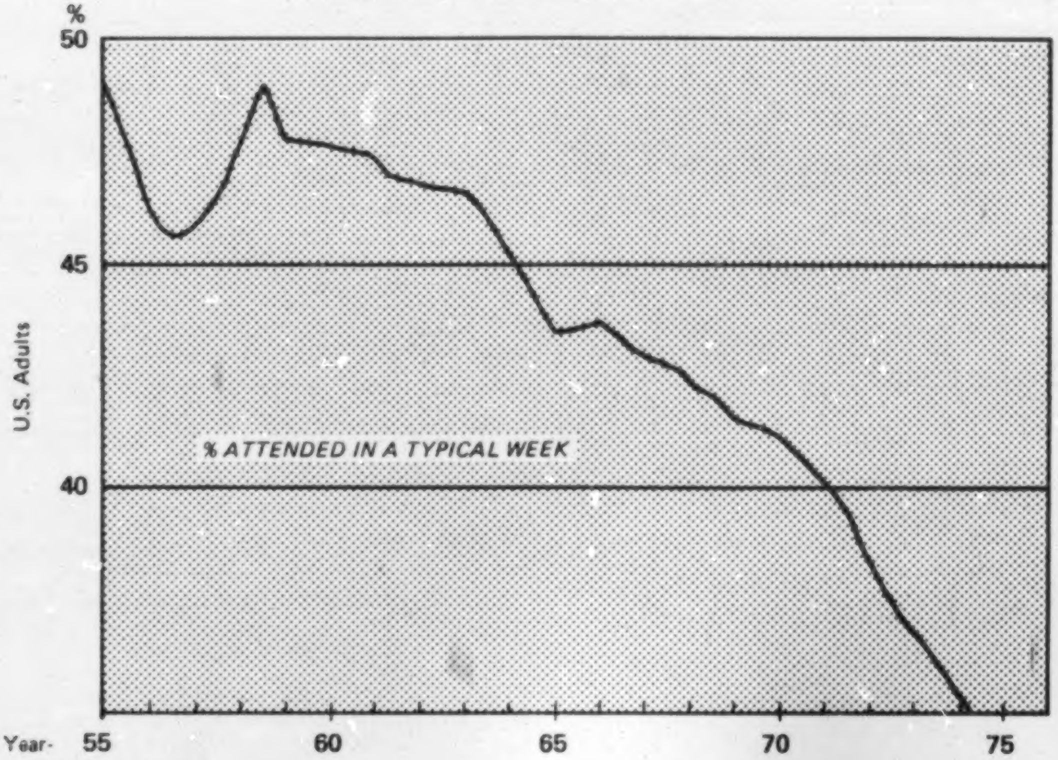
Issues: In spite of some progress with the race problem, our society still has many indications of racism. One of these is the fact that blacks earn less money than do whites for equivalent educational attainment--a problem that will not be solved by just helping blacks to attain equivalent years of schooling.

Questions: What should the public schools' stance be with regard to racism and other social problems? Is the school the place to deal with problems of this sort? If not, where? If so, how?

C. MORAL EDUCATION

1. U.S. Church Attendance: 1955-1971
2. Place of Occurrance of Violent Crime, by Type of Crime: 1967
3. Suspected Offenders for Four Violent Crimes, by Age: 1958-1972
4. Issues and Questions

U.S. CHURCH ATTENDANCE: 1955-1971

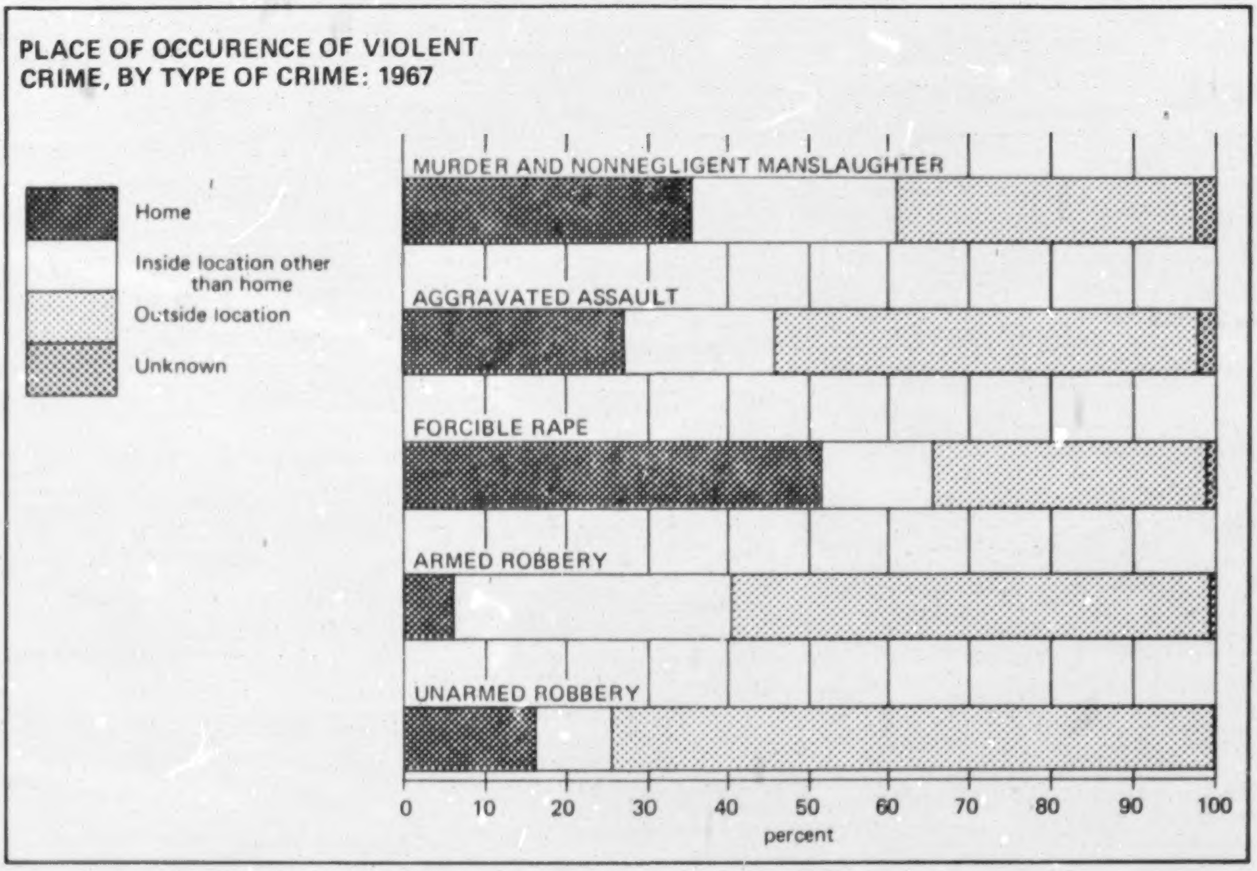


ATTENDED CHURCH DURING AVERAGE WEEK, 1971
(Percentage of Adults)

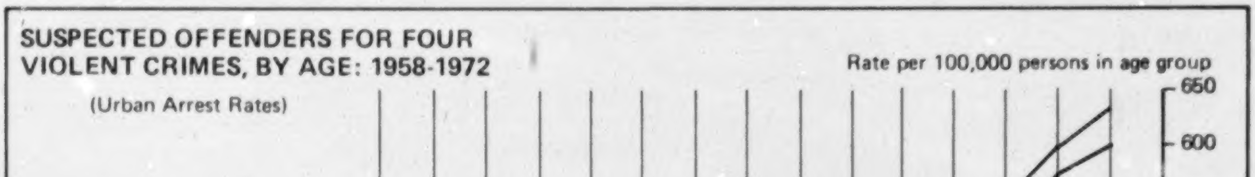
	%
National	40
Religion:	
Catholic	57
Protestant	37
Jewish	19
Sex:	
Men	35
Women	45
Race:	
White	40
Nonwhite	44
Education:	
College	40
High School	40
Grade School	41

	%
Age:	
21-29 years	28
30-49 years	42
50 & over	45
Region:	
East	39
Midwest	40
South	45
West	33

Source: Yearbook of American and Canadian Churches 1973, Abingdon Press, Nashville, 1973



PLACE OF OCCURENCE OF VIOLENT CRIME, BY TYPE OF CRIME: 1967



SUSPECTED OFFENDERS FOR FOUR VIOLENT CRIMES, BY AGE: 1958-1972

(Urban Arrest Rates)

Source: 'Social Indicators' Government Printing Office, 1973.

C. MORAL EDUCATION

4. Issues and Questions

Issue: Except for the more conservative types of churches, church attendance seems to be declining in significant amounts. Simultaneously, such problems as divorce, drug abuse, violence and criminal activity generally are increasing markedly.

While the cause and effect relationship between these statistics is by no means clear, many people think there is one. One thing seems clear, however, if the churches were once a primary source of moral education, and they no longer provide this type of learning for much of society, it implies a real educational issue for the public schools planners (and Project Redesign) to consider.

Questions: Should our public schools try to provide the moral education that the family and the church once was responsible for? If not, how will it get done? If so, how should it be done? Should alternative modes of moral or character education be provided?

IV. ADD YOUR OWN TRENDS

A waggish sociologist recently said: "We become what we measure."

Many of the most important trends in our society we just don't know how to measure, so that is perhaps a real danger of concentrating on the trends that we can measure.

For example, how would we measure moral virtue? Or wisdom? Nevertheless, often times we know (or believe) perfectly well that something important is on the increase or decrease--in spite of the fact that we can't measure it or put numbers to it.

What especially important facet of reality do you see either increasing or decreasing?

What do you think is the educational significance of this trend?

Name ________________________________ Date ____________
(optional)

Perceived Trend ____

Educational Significance of Trend ______________________

____

Name ________________________________ Date ____________
(optional)

Perceived Trend ____

Educational Significance of Trend ______________________

____

What productive issues or questions emerged from your consideration of these or other trends?

VALUES CLARIFICATION & PLANNING FOR EDUCATIONAL FUTURES

Planning is usually easier when people of like mind work together, whether they are liberal, conservative or moderate in their views. Unfortunately, most communities are pluralistic and so are the values of professional staffs. This two-part exercise was developed by the Task Force to illustrate how values held affect the group process and planning outcomes.

In part one, done as a homework assignment, the participant rates his educational values. During a group simulation session, the participant can discover for himself how those values help or impede the work of a group and how the outcome is affected.

This work is exploratory. The educational value statements developed by Mobley and Associates have not been normed.

VALUE IDENTIFICATION IN FUTURE-ORIENTED PLANNING

Name ______________________

Score ______________________

To a large extent, values determine what each of us thinks is worth doing, or supporting. On the pages that follow, there are a number of value statements that concern education. They come from a New York State study on educational goals and have been written in this form by Mobley and Associates (a Maryland educational consulting firm) to help educational planners more adequately identify the values they hold.

The exercise, which should be done in small groups, will provide an opportunity for seeing some of the ways in which different values make a difference and for seeing ways in which value differences can be used constructively, rather than destructively.

Instructions

1. As you read the value statements which follow, write a plus (+) sign to the left of those you like and a minus (-) sign to the left of those you do not like.

2. Circle all of the plus signs that go with those values you like the most or that you think most important for your school district to work toward.

3. (a) Count up how many plus marks you circled. Put the total here:

   (b) Count up how many of those circled plus marks are odd numbered. Put this total here: ______

   (c) Then divide one into the other to get a decimal fraction. ______

$$\frac{\text{(total odd +)}}{\text{(total +)}} = \underline{\qquad\qquad}$$

4. Please write your name and the decimal fraction you wrote above on the card. We will need this score to make the small group assignments. Scores will be kept confidential, although groups next session will be identified as high, low, or mixed on their scores.

5. You might like to write some of your own value statements. If so, we would like to have them to consider adding to the list. A sheet is provided for this purpose at the end of the list.

6. Finally, pick out the one value statement (on the list provided or one of your own) that you like the most or think the most important for education to fulfill and the one value statement (on the list) that you like the least or think would be the worst for education to fulfill.

Write each in your own words on the last sheet in this section. You will have a chance to share these two value statements in our next meeting if you so choose. Thank you for doing this carefully. It will contribute to a fun and informative evening that should help make your group more productive.

1. Education is training in those areas of skill development and knowledge which enables children to successfully adapt to and cope with the real world.

2. Education is primarily discovery of the joys of learning.

3. Children must be taught the necessary skills and given the essential information they will need to become good citizens.

4. Good citizenship as an educational goal for children has to do with the values which underlie the educational system.

5. The past is a storehouse of facts from which the young learn and is the basis for teaching children the skills of mastering the universe.

6. Real learning is in the discovery of how things work, hold together and function and is best measured by the individual's ability to redefine, discover and invent new ways to understand reality.

7. Our highly technological world requires that the young master the basic tools of mathematics and reading. All other disciplines are governed by one's mastery of these two tools.

8. Mathematics and reading, although necessary elements in a modern learning environment, reinforce fundamentally Western patterns of thinking. Thus they interfere at times with our understanding of other cultural traditions.

9. Children, by nature, resist education because it requires the development of controls over one's inclination to live in a magic-filled world of self-centered gratification.

10. Children, by nature, want to learn about anything and everything and children who appear to resist learning are really resisting a poor learning environment.

11. Children should be taught to respect those who teach them in school.

12. Children will only respect those teachers who respect them in return.

13. Television is not a useful teaching device.

14. Television can be a valuable teaching aid.

15. Much of the breakdown in education today is based upon the fact that teachers are no longer dedicated public servants.

16. Most teachers, as individuals, are caught in an institutional trap which consistently thwarts experimentation and breeds mediocre practices in teaching.

17. It is proper that most higher officials in the school system are men and most teachers in the lower grades are women. Their natural skills as men and women suit such a division of labor.

18. If more women could become high ranking officials and more men became engaged in education of the young, then perhaps teachers would have more effect on the system.

19. Children should not participate in the determining of curricula.

20. The more children are engaged in determining what they will learn, the more and better they will learn.

21. Teaching is the task of teachers and learning is the task of students.

22. Education is, for both teachers and students, a shared learning process.

23. Teachers are professionals who are intrusted with the educational welfare of the young. As such, they know more than parents and children concerning what should take place in the school setting.

24. Education of the young is no longer limited to the school setting. Parents, teachers, and the children themselves are all participants in the educational process.

25. Teachers, like policemen and firemen, are public servants who must be primarily motivated to serve the public. Collective bargaining, among teachers, is an unfortunate practice because it turns education into a political and an economic issue.

26. Teachers have traditionally been forced, by public indifference, into a position of unionism. If the public valued education more highly than it does other matters, perhaps this attempt at self-protection among teachers would not have evolved.

27. P.T.A.s are about the best means parents have of joining in the educational system.

28. P.T.A.s presuppose a radical distinction between those who "run" the educational system and those who stand on the sidelines and complain or give their support.

29. The school system has no right to engage in the teaching of values about sex, politics, religion or personal behavior. Only such matters as the disciplines of math, history, language and arts, and related information should be taught.

30. All education involves basic values and no school can honestly avoid dealing with value issues. Education examines values and attitudes, including those which pass for conventional norms.

31. The school system not only has the right but the obligation to control the dress and styles of attire which the young adhere to. Anarchy cannot be tolerated under the rubrics of individuality and personal freedom.

32. What a child wears to school, or what styles he or she might adhere to, should not be controlled by school officials. Self-expression must be encouraged and accepted if learning is to be enhanced.

33. Sex education in the school is dangerous because the teaching of certain "facts" cannot be separated from the teaching of certain values. Sex education must remain the task of parents, concerned about what their children learn.

34. Sex education must be taught in schools because it is one of the most important areas of human experience. Values having to do with sexual behavior can easily be examined, without being supported or judged.

35. Public education is one of the major bulwarks of the American way of life. The teaching of nationalism, loyalty and devotion to our "system" is an essential aspect of the school's task.

36. Since education cannot be equated with any one political or economic way of life, it is a continual challenge to any and all political and economic norms.

37. Prayer in the public school is as important as anything else. It teaches the young to believe that God is at the center of all reality and the belief in God is an important aspect of the American way of life.

38. Prayer in the public schools is inappropriate according to the Supreme Court's historic decision. It is not an educational activity but rather is a religious practice. The First Amendment of the Constitution prohibits such a joining of religion and the public schools.

39. Teachers should have to take an oath of loyalty to uphold the constitution of the state and the country.

40. Any oath imposed upon teachers in this country violates the very nature of education itself and even comes close to violating the Constitution since it is the right of every citizen to set the country right when one believe it to be in error.

41. Experimentation in educational matters is about the only effective way to make learning relevant to our rapidly changing society.

42. Experimentation with educational techniques and dramatic innovations in curricula should be strictly controlled.

43. The concept of "insubordination" is an appropriate term for violation, by those teachers and sub-administrative employees, of the rules and procedures set forth by the chain of command.

44. The concept of "insubordination" is inappropriate to any educational system because it reinforces an unnecessary hierarchy of authority.

45. Teacher evaluations aid administrators to keep a close check on the performance levels of teachers and thus maintain high standards of education.

46. The sole purpose of teacher evaluation procedures should be to give meaningful and effective "feedback" to teachers.

47. Our society is a work-oriented culture and our educational system should teach the young the merits and skills of work. The industrial ethics of work must be passed along to our children in school.

48. Since we are fast becoming what some have labeled a "post-industrial" civilization, the requirements for knowledge and training that suit tomorrow's world are increasingly different from those of today. The work ethic is fast becoming obsolete.

49. Public education should be a means whereby the young are prepared to find their place within the existing institutions of society.

50. Public education should be a means whereby the young can enable this society and its institutions to meet the challenges of change.

51. A child learns discipline and self-control by being taught the merits of delayed gratification and the benefits of working for rewards; i.e., grades, money, position and prestige.

52. Discipline is best discovered by a child as he or she encounters problems and tasks which they wish to master. Rewards are secondary to the real pleasures of mastery.

53. Bright children are always in a minority. Public education must be aimed to serve all children and if standards are lowered to meet this goal, it is unfortunate, but necessary, to deprive the bright ones of a greater challenge.

54. There is no relevant reason why all children, the bright or the average ones as well, should not receive personal attention and challenges which meet their educational needs.

55. Every effective organization is managed by a hierarchy of authority, and this goes for the educational system as well. The classroom and the administration of education naturally follow this pattern.

56. The hierarchy of goals and purposes ought to become the true structure of authority in an educational system.

57. Education is essentially a "hot house" experience for children, teaching them about the world they must enter in the future.

58. Effective education for children directly engages them in the real world as participants and not as candidates for participation.

59. Western values should be the basic values of our educational system, teaching the young to understand and respect their heritage.

60. The changing world and the international requirements for mutual understanding demand that children be educated to share in and understand the values and ideas of all cultures.

61. Education is not the place for feelings and emotion, because knowledge is acquired when an objective atmosphere of scientific inquiry is fostered.

62. Unless a child develops an awareness of his emotional nature, together with the factual side of learning, his education cannot be said to be complete.

63. A child naturally feels more secure when he has one teacher with whom to relate throughout his school day.

64. If the learning atmosphere is truly appealing to the child, then he soon appreciates the benefits of having many teachers available to meet his needs.

65. Children do not perceive the fact that they have an investment in the school, therefore, it is necessary to use controls over their behavior in order to do for them what they will later come to appreciate.

66. It is entirely possible for children to acquire an investment in their school and control or punishment will not give them these feelings. An atmosphere which is exciting and challenging can provide this.

67. Competition rather than cooperation is an essential value to be communicated to children in school, as it prepares them for the world beyond the classroom.

68. Cooperation rather than competition would be the dominant value which is emphasized in school, as this will be one major value they will need as adults and as citizens.

69. The structures of space and time in the school should teach the young the merits of routine, orderliness and institutional purposefulness. As the child learns to submit to such a system of order, he will also discover the merits of living within an orderly community.

70. A school environment must have a very flexible use of space and time, giving to the child a feeling that his environment is subject to his own needs and is adaptable to changing purposes.

71. Public education facilities exist primarily for the education of the young and not for social or economic purposes that serve those who missed the benefits of education when they were younger.

72. The resources and facilities of the school system exist for everyone's education and development, and should be used on an expanding basis.

73. The educational system should not surrender its role as educational leader of the community.

74. Educational leadership today is no longer limited to the public school system, therefore, each community should avail itself of all educational resources at hand.

75. The methods of education which have been used on previous generations have proven their soundness by having produced the most educated citizenry in the world.

76. Educational methods must change because we are learning more about the nature of learning and the requirements of the future demand an improvement in the system of education.

77. The idea that teachers are themselves students, if communicated to children in the classroom, tends to erode the pupils' respect for their teacher's authority.

78. Students learn better when they discover that everyone is a kind of student, including their teachers, because this makes knowledge their true authority rather than their teachers.

79. The general public hires educators to lead them in the directions which education must go, thus if there is to be any order and consistency to public education, the public must trust those whom they have hired to do the best job they can.

80. The more members of the general public are engaged in the educational system and its daily requirements to adjust to change, the more those changes will be understood and appreciated.

81. The more homogeneous a school is, in terms of the shared values and culture of its teachers and students, the better the students will learn.

82. The more heterogeneous a school is, in terms of the different values and cultures of its teachers and students, the better the students will learn.

Value statements I would like to add:

The single most important educational value I endorse is:

The single most important educational value I reject is:

PLANNING FOR THE JUNIOR HIGH SCHOOL OF THE FUTURE

A Simulation Exercise

The objective of this exercise is to design an approach to help educate junior high school students about issues of morality and meaning of life--an approach for the students of today which would nevertheless be suitable in whichever society of tomorrow their group is assigned.

Suggested agenda for each group:

1. Decide how your group should be led (e.g., let leadership emerge naturally in the group, pick a leader in the group, ask for a leader from the Futures Task Force). Approximate time: 5 min.
2. Share your most positive and negative educational value statements with each other so that you can see the relationship of these values to the final product your group creates in the simulation. 10 min.
3. Discuss the problem and the future you have been assigned; collect ideas for an approach that seems suitable. 30 min.
4. Try to get the consensus of the whole group regarding an approach that would deal with the problem. 15 min.
5. Spend some time thinking together about the process of the simulation exercise--what went on in your group that would help or hinder the working of a school/community group. 5 min.

NOTE: There will be a recorder in each group who will also help as timekeeper; they will not, however, function as leaders.

Background

Many educators feel that the conventional junior high school either is, or is rapidly becoming, the most unsuccessful of our educational programs. As one Palo Alto junior high teacher confidentially remarked at a recent conference, "Much as I hate to say it, we are losing the ball game in the junior high. I don't know why and neither do most of my colleagues, but we are losing the kids."

The subject-oriented, seven-period, junior high school curriculum is superimposed on an age group whose natural interests are centered on the importance of their own emerging identities, social interaction, lifestyles and values questions. Indeed, some developmental psychologists see adolescence as the stage in which the human is "naturally a philosopher" concerned with moral issues and with what life is all about.

Caught between the contemporary curriculum orientation of junior high school and the real life needs and interests of the 12-15 year old, many of these students are increasingly finding their school experience almost irrelevant to their lives.

Characteristics of Junior High School Students

The major concerns of junior high school students are those of relating in a meaningful way to their peers and to adults, both parents and teachers. Peer group acceptance becomes critical for personality development. The adolescent begins to question the values of home, school and society at large in moral, religious and/or philosophical terms and is seeking an individual identity within the context of a personal emerging "world view." This age group requires educational experiences which strengthen ego development. It is a time when a person experiments with ways to assert independence, personal competence and maturity and when he is likewise attempting to deal with the emotional ambivalence of an emerging adult and a dependent, insecure child.

Junior high students experience and express anxiety over the depersonalized school setting and often view school as a "holding pattern" away from real life.

As the adolescent's peer group increases in importance in his life, he seeks out peers for support and counseling often in preference to adults. This period is marked with high intellectual curiosity often over a broad spectrum of subjects or concerns. While the junior high student is capable and will at times focus on long-term indepth tasks, his greatest tendency is toward divergent thinking and a scattering of attention in an attempt to continually test and modify his world view.

Characteristics of the Junior High School Scene

Please note these have been hypothetically drafted as input factors for your simulation task. For purposes of this simulation exercise, consider these real and well established by hard statistical data.

1. Attendance has reached a new low:

   student absenteeism - up 12% over the past three years
   teacher absenteeism - up 7% over the past three years.

2. Rate of new teacher hirings has decreased to the vanishing point in the past five years. Average tenure of teachers is 15 years and increasing each year.

3. Over 65% of counselor time is spent in "remedial" activities, such as dealing with parent and/or student complaints and handling requests for transfers.

4. Student transfers to private schools have increased by 5% over the past three years.

5. Group norm scores on standardized tests have dropped by nine percentile points over the past three years.

6. Extra-curricular activities related to core subject areas (math, English, social sciences, sciences, languages) have all but faded from the junior high school scene.

7. Requests for and participation in crafts/trade/or technical skill activities have increased steadily in the past three years. Elective offerings in these high-interest areas have doubled in the past three years.

The Problem

If our social fabric is to be maintained and meaningful lives are to form as our youth grow, what changes in the system and/or the curriculum need to be made to improve the junior high school experience and to implement an increasingly workable educational system?

Given the above characteristics of junior high school students and the hypothetical junior high school scene, in what ways might the conflict between the demands of the system in preparation for high school and the needs and concerns of the students be more effectively resolved?

Although there are many areas in which this problem could be addressed, we would like you to focus on only one--the real life problems of morality, purpose, and values that the student experiences.

1. Decide whether or not junior high school should attempt to help students deal with real life problems of morality, purpose and values--both now and in the future your group has been assigned.

2. A. If you think that they should not, state clearly, why not.

   B. If you think they should, identify an approach in which this could be done--an approach that would be appropriate to the particular alternative future your group has been assigned. (Characteristics of each future are listed on the next page.)

ELEMENTS OF THE SCENARIOS IN "THE VIEW FROM 1985"

I. STATUS QUO EXTENDED

	Worldwide spread of industrialism and increasing consumption of energy and other resources
	Exportation of jobs by multi-national corporations
	Shortages of key imported materials, such as crude oil and chromium
	Rising prices and unemployment
	Tightening economic conditions
	Conflict of priorities: environment vs. jobs, job-oriented education vs. education for its own sake
	Centralization of concentration of economic and political power
	Innovative and manipulative social engineering
	Application of "sopsych" technology
	"Friendly Fascism" to regulate an almost unstable economy and society
	Increase of jobs related to "human services"

II. ECONOMIC DISAPPOINTMENT

	Very high rates of both inflation and unemployment
	Near collapse of economic system
	Food riots in major cities
	Decline in state aid
	"Frills" cut from educational programs
	Serious controversy in community over educational priorities
	Education for job training
	Increase in teacher and administrator unionism

III. CULTURAL TRANSFORMATION

	Economic crash by 1977
	Turning away from values of ever-increasing consumption
	Doing more with less by "emphermeralizing" our knowledge and technology
	Rise of the science of consciousness
	Ethic of "No man is an island" prevails
	Decline in competitive status seeking as a way of enhancing self-image
	New economic system of "just payment" and computer credit card system
	Post-industrial values emerge strongly
	Education becomes process-oriented as opposed to goal oriented
	Diversity of opinions and lifestyles increases, giving rise to a richer society with increased potential for survival

NOTE: The identification of an approach need not be a well-worked-out plan. It might be something as brief as, "Have them do library research" or "Have encounter groups on the meaning of life," but whatever the approach, have it be something you believe would be appropriate for the assigned future you have to work with.

Remember, this is a simulation exercise. Its point is more to learn about future-oriented planning than to solve the riddle of the ages.

TESTING EDUCATIONAL PLANS FOR FUTURE FEASIBILITY

Finally, the Task Force tried to imagine how a plan, once conceived, might be checked against a scheme for validation. One measure might be a "futures" validation in which the planners compared their plan against the three alternative scenarios outlined above, or against a future which the team has invented, and which seems probable.

We believe that the idea of this screen is a valid one. Because our project has not yet reached the final phases of planning, we do not know whether this format has practical value.

TESTING YOUR EDUCATIONAL PLAN FOR FUTURE FEASIBILITY

The Design Management Team has set forth four types of validity that are to be demonstrated for each plan before it is to be offered for approval by the Board of Education: educational validity (does it make sense given what we know about educational theory and practice); financial validity (can it be afforded and will it give adequate benefit in relation to its cost); political validity (does it have an adequate support base to guarantee acceptance by all who will be involved in its application); and future validity (does it seem appropriate in each of the several alternative futures that seem highly probable).

Presented below is a simple method to help assess the future validity of a plan. It requires that you do three things: (1) describe your plan together with the reasons why it is needed and the ways that it could be evaluated when put into practice; (2) describe the several types of future states of society in your locality that seem most probable and relevant to the plan; and (3) test the plan against each future to see how well it fits, given that each future is different--both from each other and from the present. If it fits well with each future, well and good. If not, you should either modify the plan or justify why it should be accepted even though it would be inappropriate in a given type of future.

Step 1 - Describing Your Plan

While plans can be described in a number of different ways, the description of your plan should at least include the following major points:

A. Need definition: Why is the plan needed? What is the difference between how things are now and how they would be if your plan was applied successfully?

B. Evidence of need: What reasons do you have for believing that this need is a real one and that it falls in the province of the schools to address? Who thinks it is important and why?

C. Evidence of workability: How would your plan work? What reasons do you have for believing that this plan would be successful?

D. Criteria for success: Ideally, how would one know when the need has been met? Would persons who have different educational values be able to agree that it has been met, or would they tend to interpret the results in different ways?

The above points should be possible to cover in a description of two to three pages.

Step 2 - Describing Several Alternative Futures

The Futures Task Force has prepared three imaginative alternative future histories (see The View From 1985) that can be used for this purpose, but they are rather general. Hence, you may want to consider alternative future possibilities that relate more specifically to your plan. Also you may not agree that the futures provided by the Task Force are the ones most worth considering; hence, again you may want to prepare your own.

Whichever path you choose--using the three futures in The View from 1985 or writing your own--it will simplify the next step if you reduce the complexity of each future to a set of basic elements, such as are shown on Table 1 in the previous section.

Step 3 - Testing the Plan Against the Futures

Obviously, stepping into the future is not easy, but the task is easier if done in a playful and imaginative way. Therefore, it helps to have the planning group pretend actually being in the particular future being considered, feeling what it might be like to live in this kind of future, and sharing the feelings that are experienced. Then, after the imaginative experiencing is done for twenty or thirty minutes, turn to the task of testing the plan in that future. How does the need definition look? Would the need you have identified be greater or less in that future? Would any of the characteristics of this particular future tend to prevent the plan from working? Or, do they indicate that there are other related needs that the plan should somehow meet?

You may find it useful to have each member of the group rate the plan using a (--), (-) (0), (+) or (++) according to how it would fit each of the main aspects of the future being considered.

It is important to stress here that no one knows what the future will be like. Which alternative futures are most probable is itself highly questionable. Hence, it is not very productive to argue which future is most probable or whether a given future is well described by the list of basic elements--the important thing is to break one's mode lock of thinking just in terms of the present and to consider a range of differences your plan might have to contend with. By so doing, you immeasurably improve your chances of success.